

# Sequence Listing

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 Napier, Mary A.  
 Pan, James  
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 Stewart, Timothy A.  
 Tumas, Daniel  
 Watanabe, Colin K.  
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 agttcttaga aaatcaaaag aggaatatga ccaggaagaa gaaaggaaga 800  
 ggaaaaaaca gttatcagag gctaaaacag aagagccac agtgcattcc 850  
 agtgaagctg caataatgaa taattcccaa ggggatggtg aacattttgc 900  
 acaccacccc tcagaagtta aaatgcattt tgctaatacag tcaatagaac 950  
 ctttggaag aaaagtggaa aggtctgaaa cttcctccct cccacaaaaa 1000  
 ggctgaaga ttcttggtt agagcatgag agcattgaag gaccaatagc 1050  
 aaacttatca gtacttgga cagaagaact tcggcaacga gaacactatc 1100  
 tcaagcagaa gagagataag ttgatgtcca tgagaaagga tatgaggact 1150  
 aaacagatac aaaatatgga gcagaaagga aaaccactg gggaggtaga 1200  
 ggaaatgaca gagaaaccag aaatgacagc agaggagaag caaacattac 1250  
 taaagaggag attgcttgca gagaaactca aagaagaagt tattaataag 1300  
 taataattaa gaacaattta acaaaatgga agttcaaatt gtcttaaaaa 1350  
 taaattattt agtccttaca ctg 1373

<210> 8  
 <211> 367  
 <212> PRT  
 <213> Homo sapiens

<400> 8  
 Met Ala Ala Glu Glu Glu Asp Glu Val Glu Trp Val Val Glu Ser  
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 Ile Ala Gly Phe Leu Arg Gly Pro Asp Trp Ser Ile Pro Ile Leu  
                     20                    25                    30  
 Asp Phe Val Glu Gln Lys Cys Glu Val Asn Cys Lys Gly Gly His  
                     35                    40                    45  
 Val Ile Thr Pro Gly Ser Pro Glu Pro Val Ile Leu Val Ala Cys  
                     50                    55                    60  
 Val Pro Leu Val Phe Asp Asp Glu Glu Glu Ser Lys Leu Thr Tyr  
                     65                    70                    75  
 Thr Glu Ile His Gln Glu Tyr Lys Glu Leu Val Glu Lys Leu Leu  
                     80                    85                    90  
 Glu Gly Tyr Leu Lys Glu Ile Gly Ile Asn Glu Asp Gln Phe Gln  
                     95                    100                    105  
 Glu Ala Cys Thr Ser Pro Leu Ala Lys Thr His Thr Ser Gln Ala  
                     110                    115                    120  
 Ile Leu Gln Pro Val Leu Ala Ala Glu Asp Phe Thr Ile Phe Lys  
                     125                    130                    135  
 Ala Met Met Val Gln Lys Asn Ile Glu Met Gln Leu Gln Ala Ile  
                     140                    145                    150

Arg	Ile	Ile	Gln	Glu	Arg	Asn	Gly	Val	Leu	Pro	Asp	Cys	Leu	Thr
				155					160					165
Asp	Gly	Ser	Asp	Val	Val	Ser	Asp	Leu	Glu	His	Glu	Glu	Met	Lys
				170					175					180
Ile	Leu	Arg	Glu	Val	Leu	Arg	Lys	Ser	Lys	Glu	Glu	Tyr	Asp	Gln
				185					190					195
Glu	Glu	Glu	Arg	Lys	Arg	Lys	Lys	Gln	Leu	Ser	Glu	Ala	Lys	Thr
				200					205					210
Glu	Glu	Pro	Thr	Val	His	Ser	Ser	Glu	Ala	Ala	Ile	Met	Asn	Asn
				215					220					225
Ser	Gln	Gly	Asp	Gly	Glu	His	Phe	Ala	His	Pro	Pro	Ser	Glu	Val
				230					235					240
Lys	Met	His	Phe	Ala	Asn	Gln	Ser	Ile	Glu	Pro	Leu	Gly	Arg	Lys
				245					250					255
Val	Glu	Arg	Ser	Glu	Thr	Ser	Ser	Leu	Pro	Gln	Lys	Gly	Leu	Lys
				260					265					270
Ile	Pro	Gly	Leu	Glu	His	Ala	Ser	Ile	Glu	Gly	Pro	Ile	Ala	Asn
				275					280					285
Leu	Ser	Val	Leu	Gly	Thr	Glu	Glu	Leu	Arg	Gln	Arg	Glu	His	Tyr
				290					295					300
Leu	Lys	Gln	Lys	Arg	Asp	Lys	Leu	Met	Ser	Met	Arg	Lys	Asp	Met
				305					310					315
Arg	Thr	Lys	Gln	Ile	Gln	Asn	Met	Glu	Gln	Lys	Gly	Lys	Pro	Thr
				320					325					330
Gly	Glu	Val	Glu	Glu	Met	Thr	Glu	Lys	Pro	Glu	Met	Thr	Ala	Glu
				335					340					345
Glu	Lys	Gln	Thr	Leu	Leu	Lys	Arg	Arg	Leu	Leu	Ala	Glu	Lys	Leu
				350					355					360
Lys	Glu	Glu	Val	Ile	Asn	Lys								
				365										

<210> 9  
 <211> 418  
 <212> DNA  
 <213> Homo sapiens

<400> 9  
 gggcacagca catgtgaagt ttttgatgat gaagaagaaa gcaaattgac 50  
 ctatacagag attcatcagg aatacaaga actagttgaa aagctgtag 100  
 aaggttacct caaagaaatt ggaattaatg aagatcaatt tcaagaagca 150  
 tgcacttctc ctcttgcaaa gaccataca tcacaggcca tttttgcaac 200  
 ctgtgttggc agcagaagat ttactatct ttaaagcaat gatggtocag 250  
 aaaaacattg aatgcagct gcaagccatt cgaataattc aagagagaaa 300

tggtgtatta cctgactgct taaccgatgg ctctgatgtg gtcagtgacc 350  
 ttgaacacga agagatgaaa atcctgaggg aagttcttag aaaatcaaaa 400  
 gaggaatatg accaggaa 418

<210> 10  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 10  
 ttgacctata cagagattca tc 22

<210> 11  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 11  
 ctaagaactt ccctcaggat ttt 23

<210> 12  
 <211> 40  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 12  
 atgaagatca atttcaagaa gcatgcactt ctctctttgc 40

<210> 13  
 <211> 2886  
 <212> DNA  
 <213> Homo sapiens

<400> 13  
 gcgtgggtttt tgttctgcaa taggcggctt agagggaggg gctttttcgc 50  
 ctatacctac tgtagcttct ccacgtatgg accctaaagg ctactgctgc 100  
 tactacgggg ctagacagtt actgtctcag ctctaggatg tgcgttcttc 150  
 cactagaagc tcttctgagg gaggtaatta aaaaacagtg gaatggaaaa 200  
 acagtgtgt agtcctctg taatatgctc cttgtcaaca atgtatacat 250  
 tcttgctagg tgccatattc attgctttta gctcaagtcg catcttacta 300  
 gtgaagtatt ctgccaatga agaaaacaag tatgattatc ttccaactac 350  
 tgtgaatgtg tgctcagaac tggatgaagct agttttctgt gtgcttgtgt 400  
 cattctgtgt tataaagaaa gatcatcaaa gtagaaattt gaaatatgct 450





cagacacaac atctcagaat ttttaattttt agaaattcat gggaaattgg 2100  
 atttttgtaa taatcttttg atgtttttaa cattgggtcc ctagtcacca 2150  
 tagttaccac ttgtatttta agtcatttaa acaagccacg gtggggcgtt 2200  
 tttctcctca gtttgaggag aaaaatcttg atgtcattac tcctgaatta 2250  
 ttacattttg gagaataaga gggcatttta ttttattagt tactaattca 2300  
 agctgtgact attgtatatc tttccaagag ttgaaatgct ggcttcagaa 2350  
 tcataccaga ttgtcagtga agctgatgcc taggaacttt taaagggatc 2400  
 ctttcaaaag gatcacttag caaacacatg ttgactttta actgatgtat 2450  
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 acagtgtctac ttcacactta aaagtgcacg gtatttttca tgggtatttg 2550  
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 catactgtaa atatgagctt tatgggtgtca ttctcagaaa cttatacatt 2750  
 tctgctctcc tttctcctaa gtttcatgca gatgaatata aggtaatata 2800  
 ctattatata attcatttgt gatatccaca ataatatgac tggcaagaat 2850  
 tgggtggaat ttgtaattaa aataattatt aaacct 2886

<210> 14  
 <211> 424  
 <212> PRT  
 <213> Homo sapiens

<400> 14  
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 Thr Met Tyr Thr Phe Leu Leu Gly Ala Ile Phe Ile Ala Leu Ser  
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 Ser Ser Arg Ile Leu Leu Val Lys Tyr Ser Ala Asn Glu Glu Asn  
 35 40 45  
 Lys Tyr Asp Tyr Leu Pro Thr Thr Val Asn Val Cys Ser Glu Leu  
 50 55 60  
 Val Lys Leu Val Phe Cys Val Leu Val Ser Phe Cys Val Ile Lys  
 65 70 75  
 Lys Asp His Gln Ser Arg Asn Leu Lys Tyr Ala Ser Trp Lys Glu  
 80 85 90  
 Phe Ser Asp Phe Met Lys Trp Ser Ile Pro Ala Phe Leu Tyr Phe  
 95 100 105  
 Leu Asp Asn Leu Ile Val Phe Tyr Val Leu Ser Tyr Leu Gln Pro  
 110 115 120

Ala Met Ala Val	Ile Phe Ser Asn Phe	Ser Ile Ile Thr Thr	Ala
125		130	135
Leu Leu Phe Arg	Ile Val Leu Lys Arg	Arg Leu Asn Trp Ile	Gln
140		145	150
Trp Ala Ser Leu	Leu Thr Leu Phe Leu	Ser Ile Val Ala Leu	Thr
155		160	165
Ala Gly Thr Lys	Thr Leu Gln His Asn	Leu Ala Gly Arg Gly	Phe
170		175	180
His His Asp Ala	Phe Phe Ser Pro Ser	Asn Ser Cys Leu Leu	Phe
185		190	195
Arg Ser Glu Cys	Pro Arg Lys Asp Asn	Cys Thr Ala Lys Glu	Trp
200		205	210
Thr Phe Pro Glu	Ala Lys Trp Asn Thr	Thr Ala Arg Val Phe	Ser
215		220	225
His Ile Arg Leu	Gly Met Gly His Val	Leu Ile Ile Val Gln	Cys
230		235	240
Phe Ile Ser Ser	Met Ala Asn Ile Tyr	Asn Glu Lys Ile Leu	Lys
245		250	255
Glu Gly Asn Gln	Leu Thr Glu Ser Ile	Phe Ile Gln Asn Ser	Lys
260		265	270
Leu Tyr Phe Phe	Gly Ile Leu Phe Asn	Gly Leu Thr Leu Gly	Leu
275		280	285
Gln Arg Ser Asn	Arg Asp Gln Ile Lys	Asn Cys Gly Phe Phe	Tyr
290		295	300
Gly His Ser Ala	Phe Ser Val Ala Leu	Ile Phe Val Thr Ala	Phe
305		310	315
Gln Gly Leu Ser	Val Ala Phe Ile Leu	Lys Phe Leu Asp Asn	Met
320		325	330
Phe His Val Leu	Met Ala Gln Val Thr	Thr Val Ile Ile Thr	Thr
335		340	345
Val Ser Val Leu	Val Phe Asp Phe Arg	Pro Ser Leu Glu Phe	Phe
350		355	360
Leu Glu Ala Pro	Ser Val Leu Leu Ser	Ile Phe Ile Tyr Asn	Ala
365		370	375
Ser Lys Pro Gln	Val Pro Glu Tyr Ala	Pro Arg Gln Glu Arg	Ile
380		385	390
Arg Asp Leu Ser	Gly Asn Leu Trp Glu	Arg Ser Ser Gly Asp	Gly
395		400	405
Glu Glu Leu Glu	Arg Leu Thr Lys Pro	Lys Ser Asp Glu Ser	Asp
410		415	420
Glu Asp Thr Phe			

<210> 15  
<211> 755  
<212> DNA  
<213> Homo sapiens

<400> 15  
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ctatacctac tgtagcttct ccacgtatgg accctaaagg ctactgctgc 150  
tactacgggg ctagacagtt actgtctcag ctctaggatg tgcgttcttc 200  
cactagaagc tcttctgagg gaggttaatta aaaaacagtg gaatggaaaa 250  
acagtgctgt agtcatcctg taatatgctc cttgtcaaca atgtatacat 300  
tcctgctagg tgccatattc attgctttta gctcaagtcg catcttacta 350  
gtgaagtatt ctgccaatga agaaaacaag tatgattatc ttccaactac 400  
tgtgaatgtg tgctcagaac tgggtgaagct agttttctgt gtgcttgtgt 450  
cattctgtgt tataaagaaa gatcatcaaa gtagaaattt gaaatatgct 500  
tcctggaagg aattctctga tttcatgaag tgggccattc ctgcctttct 550  
ttatttcctg gataacttga ttgtcttcta tgtcctgtcc tatcttcaac 600  
cagccatggc tggtatcttc tcaaatttta gcattataac aacagctctt 650  
ctattcagga tagtgctgaa gaggcgtcta aactggatcc agtgggcttc 700  
cctcctgact ttatttttgt ctattgtggc cttgactgcc gggactaaaa 750  
cttta 755

<210> 16  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 16  
ctatacctac tgtagcttct 20

<210> 17  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 17  
tcagagaatt ccttccagga 20

<210> 18  
<211> 40  
<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 18

acagtgtctgt agtcatcctg taatatgctc cttgtcaaca 40

<210> 19

<211> 2142

<212> DNA

<213> Homo sapiens

<400> 19

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cgcgcggcgg ccgtggctaa ggctgtacg aagcgagctt gggaggagca 100  
gcggcctgcg gggcagagga gcatcccgtc taccaggtcc caagcggcgt 150  
ggcccgcggg tcatggccaa aggagaaggc gccgagagcg gctccgcggc 200  
ggggctgcta cccaccagca tcctccaaag cactgaacgc ccggcccagg 250  
tgaagaaaga accgaaaaag aagaaacaac agttgtctgt ttgcaacaag 300  
ctttgctatg cacttggggg agccccctac caggtgacgg gctgtgccct 350  
gggtttcttc cttcagatct acctattgga tgtggctcag gtgggccctt 400  
tctctgcctc catcatcctg tttgtgggcc gagcctggga tgccatcaca 450  
gacccccctg tgggcctctg catcagcaaa tccccctgga cctgcctggg 500  
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acttcctcat ctggttcgtg cccgacttcc cacaoggcca gacctattgg 600  
tacctgcttt tctattgcct ctttgaaaca atggtcacgt gtttccatgt 650  
tccctactcg gctctcacca tgttcatcag caaccgagca gactgagcgg 700  
gattctgcca ccgcctatcg gatgactgtg gaagtgtcgg gcacagtgc 750  
gggcacggcg atccaggac aaatcgtggg ccaagcagac acgccttggt 800  
tccaggactt caatagctct acagtagctt cacaaagtgc caaccataca 850  
catggcacca cttcacacag ggaaacgcaa aaggcatacc tgctggcagc 900  
gggggtcatt gtctgtatct atataatctg tgctgtcatc ctgatcctgg 950  
gcgtgcggga gcagagagaa ccctatgaag ccagcagtc tgagccaatc 1000  
gcctacttcc ggggcctacg gctggtcatg agccacggcc catacatcaa 1050  
acttattact ggcttctct tccctcctt ggctttcatg ctggtggagg 1100  
ggaactttgt cttgttttgc acctacacct tgggcttccg caatgaattc 1150  
cagaatctac tcctggccat catgctctcg gccactttaa ccattcccat 1200  
ctggcagtgg ttcttgacct ggtttggcaa gaagacagct gtatatgttg 1250



Glu Arg Asp Ser	Ala Thr Ala Tyr Arg	Met Thr Val Glu Val	Leu
	110	115	120
Gly Thr Val Leu	Gly Thr Ala Ile Gln	Gly Gln Ile Val Gly	Gln
	125	130	135
Ala Asp Thr Pro	Cys Phe Gln Asp Phe	Asn Ser Ser Thr Val	Ala
	140	145	150
Ser Gln Ser Ala	Asn His Thr His Gly	Thr Thr Ser His Arg	Glu
	155	160	165
Thr Gln Lys Ala	Tyr Leu Leu Ala Ala	Gly Val Ile Val Cys	Ile
	170	175	180
Tyr Ile Ile Cys	Ala Val Ile Leu Ile	Leu Gly Val Arg Glu	Gln
	185	190	195
Arg Glu Pro Tyr	Glu Ala Gln Gln Ser	Glu Pro Ile Ala Tyr	Phe
	200	205	210
Arg Gly Leu Arg	Leu Val Met Ser His	Gly Pro Tyr Ile Lys	Leu
	215	220	225
Ile Thr Gly Phe	Leu Phe Thr Ser Leu	Ala Phe Met Leu Val	Glu
	230	235	240
Gly Asn Phe Val	Leu Phe Cys Thr Tyr	Thr Leu Gly Phe Arg	Asn
	245	250	255
Glu Phe Gln Asn	Leu Leu Leu Ala Ile	Met Leu Ser Ala Thr	Leu
	260	265	270
Thr Ile Pro Ile	Trp Gln Trp Phe Leu	Thr Arg Phe Gly Lys	Lys
	275	280	285
Thr Ala Val Tyr	Val Gly Ile Ser Ser	Ala Val Pro Phe Leu	Ile
	290	295	300
Leu Val Ala Leu	Met Glu Ser Asn Leu	Ile Ile Thr Tyr Ala	Val
	305	310	315
Ala Val Ala Ala	Gly Ile Ser Val Ala	Ala Ala Phe Leu Leu	Pro
	320	325	330
Trp Ser Met Leu	Pro Asp Val Ile Asp	Asp Phe His Leu Lys	Gln
	335	340	345
Pro His Phe His	Gly Thr Glu Pro Ile	Phe Phe Ser Phe Tyr	Val
	350	355	360
Phe Phe Thr Lys	Phe Ala Ser Gly Val	Ser Leu Gly Ile Ser	Thr
	365	370	375
Leu Ser Leu Asp	Phe Ala Gly Tyr Gln	Thr Arg Gly Cys Ser	Gln
	380	385	390
Pro Glu Arg Val	Lys Phe Thr Leu Asn	Met Leu Val Thr Met	Ala
	395	400	405
Pro Ile Val Leu	Ile Leu Leu Gly Leu	Leu Leu Phe Lys Met	Tyr
	410	415	420

Pro Ile Asp Glu Glu Arg Arg Arg Gln Asn Lys Lys Ala Leu Gln  
425 430 435

Ala Leu Arg Asp Glu Ala Ser Ser Ser Gly Cys Ser Glu Thr Asp  
440 445 450

Ser Thr Glu Leu Ala Ser Ile Leu  
455

<210> 21  
<211> 571  
<212> DNA  
<213> Homo sapiens

<400> 21  
gggaaacgca aaaggcatac ctgctggcag cggggggtcat tgtctgtatc 50  
tatataatct gtgctgtcat cctgatcctg ggcgtgcggg agcagagaga 100  
accctatgaa gccacgacgt ctgagccaat cgcctacttc cggggcctac 150  
ggctgggtcat gagccacggc ccatacatca aacttattac tggcttcctc 200  
ttcacctcct tggctttcat gctgggtggag gggaactttg tcttgttttg 250  
cacctacacc ttgggcttcc gcaatgaatt ccagaatcta ctccctggcca 300  
tcatgctctc ggccacttta accattccca tctggcagtg gttcttgacc 350  
cggtttgcca agaagacagc tgtatatgtt gggatctcat cagcagtgcc 400  
atctctcatc ttggtggccc tcatggagag taacctcatc attacatatg 450  
cggtagctgt ggcagctggc atcagtgtgg cagctgcctt cttactacc 500  
tggtccatgc tgcctgatgt cattgacgac ttocatctga agcagcccca 550  
cttccatgga accgagccca t 571

<210> 22  
<211> 1173  
<212> DNA  
<213> Homo sapiens

<400> 22  
ggggcttcgg cgccagcggc cagcgctagt cggctctggta aggatttaca 50  
aaaggtgcag gtatgagcag gtctgaagac taacattttg tgaagttgta 100  
aaacagaaaa cctgttagaa atgtggtggt ttcagcaagg cctcagtttc 150  
cttccttcag cccttgtaat ttggacatct gctgctttca tattttcata 200  
cattactgca gtaacactcc accatataga ccgggcttta ccttatatca 250  
gtgacactgg tacagtagct ccagaaaaat gcttatttgg ggcaatgcta 300  
aatattgcgg cagttttatg cattgctacc atttatgttc gttataagca 350  
agttcatgct ctgagtcctg aagagaacgt tatcatcaaa ttaaacaagg 400  
ctggccttgt acttgaata ctgagttgtt taggactttc tattgtggca 450





Met	Phe	Val	Gln	Thr	Ile	Leu	Ser	Tyr	Gln	Met	Gln	Pro	Lys	Ile
				140					145					150
His	Gly	Lys	Gln	Val	Phe	Trp	Ile	Arg	Leu	Leu	Leu	Val	Ile	Trp
				155					160					165
Cys	Gly	Val	Ser	Ala	Leu	Ser	Met	Leu	Thr	Cys	Ser	Ser	Val	Leu
				170					175					180
His	Ser	Gly	Asn	Phe	Gly	Thr	Asp	Leu	Glu	Gln	Lys	Leu	His	Trp
				185					190					195
Asn	Pro	Glu	Asp	Lys	Gly	Tyr	Val	Leu	His	Met	Ile	Thr	Thr	Ala
				200					205					210
Ala	Glu	Trp	Ser	Met	Ser	Phe	Ser	Phe	Phe	Gly	Phe	Phe	Leu	Thr
				215					220					225
Tyr	Ile	Arg	Asp	Phe	Gln	Lys	Ile	Ser	Leu	Arg	Val	Glu	Ala	Asn
				230					235					240
Leu	His	Gly	Leu	Thr	Leu	Tyr	Asp	Thr	Ala	Pro	Cys	Pro	Ile	Asn
				245					250					255
Asn	Glu	Arg	Thr	Arg	Leu	Leu	Ser	Arg	Asp	Ile				
				260					265					

<210> 24  
 <211> 485  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 14, 484  
 <223> unknown base

<400> 24  
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 ctgatgccga gttccgtctc tcgggtcttt tcttggtccc aggcaaagcg 100  
 gagcggagat cctcaaacgg cctagtgttt cgcgcttccg gagaaaatca 150  
 gcgggtctaataattcctct ggtttggtga agcagttacc aagaatcttc 200  
 aaccctttcc cacaaaagct aattgagtac acgttcctgt tgagtacacg 250  
 ttcctgttga ttacaaaag gtgcaggtat gagcaggtct gaagactaac 300  
 attttgtgaa gttgtaaaac agaaaacctg ttagaaatgt ggtgggtttca 350  
 gcaaggcctc agtttccttc cttcagccct tgtaatttgg acatctgctg 400  
 ctttcatatt ttcatacatt actgcagtaa cactccacca tatagaccgc 450  
 gctttacctt atatcagtga cactggtaca gtanc 485

<210> 25  
 <211> 40  
 <212> DNA  
 <213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 25  
acctgtaga aatgtggtg tttcagcaag gcctcagttt 40

<210> 26  
<211> 46  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 26  
ggagatagct gctatgggtt cttcaggcac aacttaacat gggaag 46

<210> 27  
<211> 1399  
<212> DNA  
<213> Homo sapiens

<400> 27  
ccccgcgctc cgcccgccgc tgcgtcccgg agtgcaagtg agcttctcgg 50  
ctgccccgcg ggccgggggtg cggagccgac atgcgcccgc ttctcggcct 100  
ccttctggtc ttgcgcggct gcaccttcgc cttgtacttg ctgtcgacgc 150  
gactgccccg cgggcggaga ctgggctcca ccgaggaggc tggaggcagg 200  
tcgctgtggt tccccccga cctggcagag ctgcgggagc tctctgaggt 250  
ccttcgagag taccggaagg agcaccaggc ctacgtgttc ctgctcttct 300  
gcggcgccta cctctacaaa cagggttttg ccatccccgg ctccagcttc 350  
ctgaatgttt tagctggtgc cttgtttggg ccatggctgg ggcttctgct 400  
gtgctgtgtg ttgacctcgg tgggtgccac atgctgctac ctgctctcca 450  
gtattttttg caaacagttg gtggtgtcct actttcctga taaagtggcc 500  
ctgctgcaga gaaaggtgga ggagaacaga aacagcttgt tttttttctt 550  
attgtttttg agacttttcc ccatgacacc aaactggttc ttgaacctct 600  
cggccccaat tctgaacatt ccatcgtgc agtttcttct ctcaattctt 650  
atcggtttga tcccatataa tttcatctgt gtgcagacag ggtccatcct 700  
gtcaacccta acctctctgg atgctctttt ctccctgggac actgtcttta 750  
agctgttggc cattgccatg gtggcattaa ttccctggaac cctcattaaa 800  
aaatttagtc agaaacatct gcaattgaat gaaacaagta ctgctaata 850  
tatacacagt agaaaagaca catgatctgg attttctggt tggcacatcc 900  
ctggactcag ttgcttattt gtgtaatgga tgtggtcctc taaagcccct 950  
cattgttttt gattgccttc tataggtgat gtggacactg tgcataatg 1000

tgcagtgtct tttoagaaag gacactctgc tcttgaaggt gtattacatc 1050  
 aggtttttcaa accagccctg gtgtagcaga cactgcaaca gatgcctcct 1100  
 agaaaaatgct gtttgtggcc gggcgcggtg gctcacgcct gtaatcccag 1150  
 cactttggga ggccgaggcc ggtgattcac aaggtcagga gttcaagacc 1200  
 agcctggcca agatggtgaa atcctgtctc taataaaaat acaaaaatta 1250  
 gccaggcgtg gtggcaggca cctgtaatcc cagctactcg ggaggctgag 1300  
 gcaggagaat tgcttgaacc aaggtggcag aggttgcagt aagccaagat 1350  
 cacaccactg cactccagcc tgggtgatag agtgagacac tgtcttgac 1399

<210> 28  
 <211> 264  
 <212> PRT  
 <213> Homo sapiens

<400> 28  
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 1 5 10 15  
 Phe Ala Leu Tyr Leu Leu Ser Thr Arg Leu Pro Arg Gly Arg Arg  
 20 25 30  
 Leu Gly Ser Thr Glu Glu Ala Gly Gly Arg Ser Leu Trp Phe Pro  
 35 40 45  
 Ser Asp Leu Ala Glu Leu Arg Glu Leu Ser Glu Val Leu Arg Glu  
 50 55 60  
 Tyr Arg Lys Glu His Gln Ala Tyr Val Phe Leu Leu Phe Cys Gly  
 65 70 75  
 Ala Tyr Leu Tyr Lys Gln Gly Phe Ala Ile Pro Gly Ser Ser Phe  
 80 85 90  
 Leu Asn Val Leu Ala Gly Ala Leu Phe Gly Pro Trp Leu Gly Leu  
 95 100 105  
 Leu Leu Cys Cys Val Leu Thr Ser Val Gly Ala Thr Cys Cys Tyr  
 110 115 120  
 Leu Leu Ser Ser Ile Phe Gly Lys Gln Leu Val Val Ser Tyr Phe  
 125 130 135  
 Pro Asp Lys Val Ala Leu Leu Gln Arg Lys Val Glu Glu Asn Arg  
 140 145 150  
 Asn Ser Leu Phe Phe Phe Leu Leu Phe Leu Arg Leu Phe Pro Met  
 155 160 165  
 Thr Pro Asn Trp Phe Leu Asn Leu Ser Ala Pro Ile Leu Asn Ile  
 170 175 180  
 Pro Ile Val Gln Phe Phe Phe Ser Val Leu Ile Gly Leu Ile Pro  
 185 190 195  
 Tyr Asn Phe Ile Cys Val Gln Thr Gly Ser Ile Leu Ser Thr Leu  
 200 205 210

Thr	Ser	Leu	Asp	Ala	Leu	Phe	Ser	Trp	Asp	Thr	Val	Phe	Lys	Leu
				215					220					225
Leu	Ala	Ile	Ala	Met	Val	Ala	Leu	Ile	Pro	Gly	Thr	Leu	Ile	Lys
				230					235					240
Lys	Phe	Ser	Gln	Lys	His	Leu	Gln	Leu	Asn	Glu	Thr	Ser	Thr	Ala
				245					250					255
Asn	His	Ile	His	Ser	Arg	Lys	Asp	Thr						
				260										

<210> 29  
 <211> 1292  
 <212> DNA  
 <213> Homo sapiens

<400> 29  
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 ggtttccgaa ctgccagctc agaataggaa aataacttgg gattttatat 150  
 tggaagacat ggatcttgct gccaacgaga tcagcattta tgacaaactt 200  
 tcagagactg ttgatttggt gagacagacc ggccatcagt gtggcatgtc 250  
 agagaaggca attgaaaaat ttatcagaca gctgctggaa aagaatgaac 300  
 ctgagagacc cccccgcag tatcctctcc ttatagttgt gtataagggt 350  
 ctgcgaacct tgggattaat ctgctcact gcctactttg tgattcaacc 400  
 tttcagccca ttagcacctg agccagtgtt ttctggagct cacacctggc 450  
 gctcactcat ccatcacatt aggtgatgt ccttgcccat tgccaagaag 500  
 tacatgtcag aaaataaggg agttcctctg catgggggtg atgaagacag 550  
 accctttcca gactttgacc cctggtggac aaacgactgt gagcagaatg 600  
 agtcagagcc cattcctgcc aactgactg gctgtgcccc gaaacacctg 650  
 aaggtgatgc tcctggaaga cgcccaagg aaatttgaga ggctccatcc 700  
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 ttttgtgcca gtaccctgag gcgacagaag gcttctctga agggtttttc 800  
 gccaaagtgt ggcgctgctt tcctgagcgg tggttcccat ttccttatcc 850  
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 cctatttata attggcagcg gtgaggccat gttgcagctc atccctccct 1050  
 tccagtgcog aagacattgt cagtctgtgg ccatgccaat agagccaggg 1100  
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agggggtccag ccttttggtca tctgcatgg aaccgctttc tcagaactgt 1200  
 aggaaataga actgtgcaca ggaacagctt ccagagccga aaaccagggtt 1250  
 gaaaggggaa aaataaaaac aaaaacgatg aaactgcaaa aa 1292

<210> 30  
 <211> 347  
 <212> PRT  
 <213> Homo sapiens

<400> 30  
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 20 25 30  
 Ser Glu Lys Ala Ile Glu Lys Phe Ile Arg Gln Leu Leu Glu Lys  
 35 40 45  
 Asn Glu Pro Gln Arg Pro Pro Pro Gln Tyr Pro Leu Leu Ile Val  
 50 55 60  
 Val Tyr Lys Val Leu Ala Thr Leu Gly Leu Ile Leu Leu Thr Ala  
 65 70 75  
 Tyr Phe Val Ile Gln Pro Phe Ser Pro Leu Ala Pro Glu Pro Val  
 80 85 90  
 Leu Ser Gly Ala His Thr Trp Arg Ser Leu Ile His His Ile Arg  
 95 100 105  
 Leu Met Ser Leu Pro Ile Ala Lys Lys Tyr Met Ser Glu Asn Lys  
 110 115 120  
 Gly Val Pro Leu His Gly Gly Asp Glu Asp Arg Pro Phe Pro Asp  
 125 130 135  
 Phe Asp Pro Trp Trp Thr Asn Asp Cys Glu Gln Asn Glu Ser Glu  
 140 145 150  
 Pro Ile Pro Ala Asn Cys Thr Gly Cys Ala Gln Lys His Leu Lys  
 155 160 165  
 Val Met Leu Leu Glu Asp Ala Pro Arg Lys Phe Glu Arg Leu His  
 170 175 180  
 Pro Leu Val Ile Lys Thr Gly Lys Pro Leu Leu Glu Glu Glu Ile  
 185 190 195  
 Gln His Phe Leu Cys Gln Tyr Pro Glu Ala Thr Glu Gly Phe Ser  
 200 205 210  
 Glu Gly Phe Phe Ala Lys Trp Trp Arg Cys Phe Pro Glu Arg Trp  
 215 220 225  
 Phe Pro Phe Pro Tyr Pro Trp Arg Arg Pro Leu Asn Arg Ser Gln  
 230 235 240  
 Met Leu Arg Glu Leu Phe Pro Val Phe Thr His Leu Pro Phe Pro  
 245 250 255

Lys	Asp	Ala	Ser	Leu	Asn	Lys	Cys	Ser	Phe	Leu	His	Pro	Glu	Pro
				260					265					270
Val	Val	Gly	Ser	Lys	Met	His	Lys	Met	Pro	Asp	Leu	Phe	Ile	Ile
				275					280					285
Gly	Ser	Gly	Glu	Ala	Met	Leu	Gln	Leu	Ile	Pro	Pro	Phe	Gln	Cys
				290					295					300
Arg	Arg	His	Cys	Gln	Ser	Val	Ala	Met	Pro	Ile	Glu	Pro	Gly	Asp
				305					310					315
Ile	Gly	Tyr	Val	Asp	Thr	Thr	His	Trp	Lys	Val	Tyr	Val	Ile	Ala
				320					325					330
Arg	Gly	Val	Gln	Pro	Leu	Val	Ile	Cys	Asp	Gly	Thr	Ala	Phe	Ser
				335					340					345

Glu Leu

<210> 31  
 <211> 478  
 <212> DNA  
 <213> Homo sapiens

<400> 31  
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 gttctcagcc gttcagttgt gatcaaggga cacgtggttt ccgaactgcc 150  
 agctcagaat aggaaaataa cttgggattt tatattggaa gacatggatc 200  
 ttgctgccaa cgagatcagc atttatgaca aactttcaga gactgttgat 250  
 ttggtgagac agaccggcca tcagtgtggc atgtcagaga aggcaattga 300  
 aaaatttatc agacagctgc tggaaaagaa tgaacctcag agaccccccc 350  
 cgcagtatcc tctccttata gttgtgtata aggttctcgc aaccttgga 400  
 ttaatcttgc tcaactgccta ctttgtgatt caacctttca gccatttagc 450  
 acctgagcca gtgctttgtg gagctcac 478

<210> 32  
 <211> 3531  
 <212> DNA  
 <213> Homo sapiens

<400> 32  
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 ccactgatga ggcaggggtcc ccacttgagc ctgcagcagc tgcagcagct 100  
 gcagagcgct gctcctggct ggtgccactg gtgcgcacgc tgctagaccg 150  
 tgcctatgag ccgctggggc tgcagtgggg actgccctcc ctgccaccca 200  
 ccaatggcag cccacacctc tttgaagact tccaggcttt ttgtgccaca 250

cccgaatggc gccacttcat cgacaaacag gtacagccaa ccatgtccca 300  
 gttcgaaatg gacacgtatg ctaagagcca cgaccttatg tcaggtttct 350  
 ggaatgcctg ctatgacatg cttatgagca gtgggcagcg gcgccagtgg 400  
 gagcgcgccc agagtcgtcg ggccttccag gagctggtgc tggaacctgc 450  
 gcagaggcgg gcgcgcctgg aggggctacg ctacacggca gtgctgaagc 500  
 agcaggcaac gcagcactcc atggccctgc tgcactgggg ggcgctgtgg 550  
 cgccagctcg ccagcccatg tggggcctgg gcgctgaggg aactcccat 600  
 cccccgctgg aaactgtcca gcgccgagac atattcacgc atgctctga 650  
 agctggtgcc caaccatcac ttcgacctc acctggaagc cagcgtctc 700  
 cgagacaatc tgggtgaggt tcccctgaca cccaccgagg aggcctcact 750  
 gcctctggca gtgaccaaag aggccaaagt gagcaccca cccgagttgc 800  
 tgcaggagga ccagctcggc gaggacgagc tggctgagct ggagaccccg 850  
 atggaggcag cagaactgga tgagcagcgt gagaagctgg tgctgtcggc 900  
 cgagtgccag ctggtgacgg tagtgccgt ggtcccaggg ctgctggagg 950  
 tcaccacaca gaatgtatac ttctacgatg gcagcactga gcgcgtggaa 1000  
 accgaggagg gcatcggtta tgatttccgg cgcacctgg cccagctgcg 1050  
 tgaggtccac ctgcggcgtt tcaacctgcg ccgttcagca cttgagctct 1100  
 tctttatcga tcaggccaac tacttctca acttcccatg caaggtgggc 1150  
 acgacccag tctcatctcc tagccagact ccgagacccc agcctggccc 1200  
 catcccacc cataccagg tacggaacca ggtgtactcg tggctcctgc 1250  
 gcctacggcc cccctctcaa ggctacctaa gcagccgctc ccccaggag 1300  
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 atgacctgtc tcagtaccct gtgttccct gggctcctga ggactacgtg 1450  
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 gccatcgggt gtggtgaacc ccaagcatgc ccagctcgtg agggagaagt 1550  
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 acccactact ccaatgcagc aggcgtgatg cactacctca tccgcgtgga 1650  
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 ccgaccggca gttccactcg gtggcggcag cctggcaggc acgcctggag 1750  
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 cttcctggag aaccagaacg gttttgacct gggctgtctc cagctgacca 1850





gttaccctt cagggattgg cgggcggaag tcccggccct cgccggctga 3500

ggggccgccc tgaggccag cactggcgtc t 3531

<210> 33

<211> 1003

<212> PRT

<213> Homo sapiens

<400> 33

Met	Ser	Gln	Phe	Glu	Met	Asp	Thr	Tyr	Ala	Lys	Ser	His	Asp	Leu
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Met	Ser	Gly	Phe	Trp	Asn	Ala	Cys	Tyr	Asp	Met	Leu	Met	Ser	Ser
				20					25					30

Gly	Gln	Arg	Arg	Gln	Trp	Glu	Arg	Ala	Gln	Ser	Arg	Arg	Ala	Phe
				35					40					45

Gln	Glu	Leu	Val	Leu	Glu	Pro	Ala	Gln	Arg	Arg	Ala	Arg	Leu	Glu
				50					55					60

Gly	Leu	Arg	Tyr	Thr	Ala	Val	Leu	Lys	Gln	Gln	Ala	Thr	Gln	His
				65					70					75

Ser	Met	Ala	Leu	Leu	His	Trp	Gly	Ala	Leu	Trp	Arg	Gln	Leu	Ala
				80					85					90

Ser	Pro	Cys	Gly	Ala	Trp	Ala	Leu	Arg	Asp	Thr	Pro	Ile	Pro	Arg
				95					100					105

Trp	Lys	Leu	Ser	Ser	Ala	Glu	Thr	Tyr	Ser	Arg	Met	Arg	Leu	Lys
				110					115					120

Leu	Val	Pro	Asn	His	His	Phe	Asp	Pro	His	Leu	Glu	Ala	Ser	Ala
				125					130					135

Leu	Arg	Asp	Asn	Leu	Gly	Glu	Val	Pro	Leu	Thr	Pro	Thr	Glu	Glu
				140					145					150

Ala	Ser	Leu	Pro	Leu	Ala	Val	Thr	Lys	Glu	Ala	Lys	Val	Ser	Thr
				155					160					165

Pro	Pro	Glu	Leu	Leu	Gln	Glu	Asp	Gln	Leu	Gly	Glu	Asp	Glu	Leu
				170					175					180

Ala	Glu	Leu	Glu	Thr	Pro	Met	Glu	Ala	Ala	Glu	Leu	Asp	Glu	Gln
				185					190					195

Arg	Glu	Lys	Leu	Val	Leu	Ser	Ala	Glu	Cys	Gln	Leu	Val	Thr	Val
				200					205					210

Val	Ala	Val	Val	Pro	Gly	Leu	Leu	Glu	Val	Thr	Thr	Gln	Asn	Val
				215					220					225

Tyr	Phe	Tyr	Asp	Gly	Ser	Thr	Glu	Arg	Val	Glu	Thr	Glu	Glu	Gly
				230					235					240

Ile	Gly	Tyr	Asp	Phe	Arg	Arg	Pro	Leu	Ala	Gln	Leu	Arg	Glu	Val
				245					250					255

His	Leu	Arg	Arg	Phe	Asn	Leu	Arg	Arg	Ser	Ala	Leu	Glu	Leu	Phe
				260					265					270



Gly	Ala	Val	Asp	Leu	Asp	His	Val	Thr	Asp	Glu	Arg	Glu	Arg	Lys	
				590					595					600	
Ala	Leu	Glu	Gly	Ile	Ile	Ser	Asn	Phe	Gly	Gln	Thr	Pro	Cys	Gln	
				605					610					615	
Leu	Leu	Lys	Glu	Pro	His	Pro	Thr	Arg	Leu	Ser	Ala	Glu	Glu	Ala	
				620					625					630	
Ala	His	Arg	Leu	Ala	Arg	Leu	Asp	Thr	Asn	Ser	Pro	Ser	Ile	Phe	
				635					640					645	
Gln	His	Leu	Asp	Glu	Leu	Lys	Ala	Phe	Phe	Ala	Glu	Val	Thr	Val	
				650					655					660	
Ser	Ala	Ser	Gly	Leu	Leu	Gly	Thr	His	Ser	Trp	Leu	Pro	Tyr	Asp	
				665					670					675	
Arg	Asn	Ile	Ser	Asn	Tyr	Phe	Ser	Phe	Ser	Lys	Asp	Pro	Thr	Met	
				680					685					690	
Gly	Ser	His	Lys	Thr	Gln	Arg	Leu	Leu	Ser	Gly	Pro	Trp	Val	Pro	
				695					700					705	
Gly	Ser	Gly	Val	Ser	Gly	Gln	Ala	Leu	Ala	Val	Ala	Pro	Asp	Gly	
				710					715					720	
Lys	Leu	Leu	Phe	Ser	Gly	Gly	His	Trp	Asp	Gly	Ser	Leu	Arg	Val	
				725					730					735	
Thr	Ala	Leu	Pro	Arg	Gly	Lys	Leu	Leu	Ser	Gln	Leu	Ser	Cys	His	
				740					745					750	
Leu	Asp	Val	Val	Thr	Cys	Leu	Ala	Leu	Asp	Thr	Cys	Gly	Ile	Tyr	
				755					760					765	
Leu	Ile	Ser	Gly	Ser	Arg	Asp	Thr	Thr	Cys	Met	Val	Trp	Arg	Leu	
				770					775					780	
Leu	His	Gln	Gly	Gly	Leu	Ser	Val	Gly	Leu	Ala	Pro	Lys	Pro	Val	
				785					790					795	
Gln	Val	Leu	Tyr	Gly	His	Gly	Ala	Ala	Val	Ser	Cys	Val	Ala	Ile	
				800					805					810	
Ser	Thr	Glu	Leu	Asp	Met	Ala	Val	Ser	Gly	Ser	Glu	Asp	Gly	Thr	
				815					820					825	
Val	Ile	Ile	His	Thr	Val	Arg	Arg	Gly	Gln	Phe	Val	Ala	Ala	Leu	
				830					835					840	
Arg	Pro	Leu	Gly	Ala	Thr	Phe	Pro	Gly	Pro	Ile	Phe	His	Leu	Ala	
				845					850					855	
Leu	Gly	Ser	Glu	Gly	Gln	Ile	Val	Val	Gln	Ser	Ser	Ala	Trp	Glu	
				860					865					870	
Arg	Pro	Gly	Ala	Gln	Val	Thr	Tyr	Ser	Leu	His	Leu	Tyr	Ser	Val	
				875					880					885	
Asn	Gly	Lys	Leu	Arg	Ala	Ser	Leu	Pro	Leu	Ala	Glu	Gln	Pro	Thr	
				890					895					900	

Ala	Leu	Thr	Val	Thr	Glu	Asp	Phe	Val	Leu	Leu	Gly	Thr	Ala	Gln
				905					910					915
Cys	Ala	Leu	His	Ile	Leu	Gln	Leu	Asn	Thr	Leu	Leu	Pro	Ala	Ala
				920					925					930
Pro	Pro	Leu	Pro	Met	Lys	Val	Ala	Ile	Arg	Ser	Val	Ala	Val	Thr
				935					940					945
Lys	Glu	Arg	Ser	His	Val	Leu	Val	Gly	Leu	Glu	Asp	Gly	Lys	Leu
				950					955					960
Ile	Val	Val	Val	Ala	Gly	Gln	Pro	Ser	Glu	Val	Arg	Ser	Ser	Gln
				965					970					975
Phe	Ala	Arg	Lys	Leu	Trp	Arg	Ser	Ser	Arg	Arg	Ile	Ser	Gln	Val
				980					985					990
Ser	Ser	Gly	Glu	Thr	Glu	Tyr	Asn	Pro	Thr	Glu	Ala	Arg		
				995					1000					

<210> 34  
 <211> 43  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 34  
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<210> 35  
 <211> 1395  
 <212> DNA  
 <213> Homo sapiens

<400> 35  
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 atcatgcaac ccacacggccc accttgtgaa ctctctgtgc ccaggggctga 100  
 tgtgctgtctt ccaggggctac tcatocaaag gcctaatacca acgttctgtc 150  
 ttcaatctgc aaatctatgg ggtcctgggg ctcttctgga cccttaactg 200  
 ggtactggcc ctggggccaat gcgtcctcgc tggagccttt gcctccttct 250  
 actggggcctt ccacaagccc caggacatcc ctaccttccc cttaatctct 300  
 gccttcatcc gcacactccg ttaccacact gggtcattgg catttgagc 350  
 cctcatcctg acccttgtgc agatagcccg ggtcatcttg gagtatattg 400  
 accacaagct cagaggagtgc cagaaccctg tagcccgctg catcatgtgc 450  
 tgtttcaagt gctgcctctg gtgtctggaa aaatttatca agttcctaaa 500  
 ccgcaatgca tacatcatga tcgccatcta cgggaagaat ttctgtgtct 550  
 cagccaaaaa tgcgttcatg ctactcatgc gaaacattgt cagggtgggc 600  
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ggtcggaggc gtgggggtcc tgtccttctt ttttttctcc ggtcgcaccc 700  
 cggggctggg taaagacttt aagagccccc acctcaacta ttactggctg 750  
 cccatcatga cctccatcct gggggcctat gtcacgcaca gcggcttctt 800  
 cagcgttttc ggcatgtgtg tggacacgct ctccctctgc ttcctggaag 850  
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 cccaccgtcc agccatccaa cctcacttcg ccttacaggt ctccattttg 1050  
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 acactttgag aggctgaggc gggcggatca cctgagtcag gagttcgaga 1150  
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 ttagccgaga gtggtggcat gcacctgtca tcccagctac tcgggagggt 1250  
 gaggcaggag aatcgcttga acccgggagg cagagggttc agtgagccga 1300  
 gatcgcgcca ctgcactcca acctgggtga cagactctgt ctccaaaaca 1350  
 aaacaaacaa acaaaaagat tttattaaag atattttgtt aactc 1395

<210> 36  
 <211> 321  
 <212> PRT  
 <213> Homo sapiens

<400> 36  
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 20 25 30  
 Pro Gly Leu Met Cys Val Phe Gln Gly Tyr Ser Ser Lys Gly Leu  
 35 40 45  
 Ile Gln Arg Ser Val Phe Asn Leu Gln Ile Tyr Gly Val Leu Gly  
 50 55 60  
 Leu Phe Trp Thr Leu Asn Trp Val Leu Ala Leu Gly Gln Cys Val  
 65 70 75  
 Leu Ala Gly Ala Phe Ala Ser Phe Tyr Trp Ala Phe His Lys Pro  
 80 85 90  
 Gln Asp Ile Pro Thr Phe Pro Leu Ile Ser Ala Phe Ile Arg Thr  
 95 100 105  
 Leu Arg Tyr His Thr Gly Ser Leu Ala Phe Gly Ala Leu Ile Leu  
 110 115 120  
 Thr Leu Val Gln Ile Ala Arg Val Ile Leu Glu Tyr Ile Asp His  
 125 130 135



<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 39  
ggcctaatacc aacgtttctgt cttcaatctg caaatctatg gggtcctggg 50

<210> 40  
<211> 1365  
<212> DNA  
<213> Homo sapiens

<400> 40  
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agggtggtcca gagccagagg gtccttctct tcgtggcctc ggacgtggat 150  
gctctgtgtg cgtgcaagat ccttcaggcc ttgttccagt gtgaccacgt 200  
gcaatatacg ctgggttccag tttctgggtg gcaagaactt gaaactgcat 250  
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atacccagat caaattactc attaaacaag atgatgacct tgaagttccc 450  
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aggagtctct tgcagacatg ggtcttcccc tgaagcaggt gaagcagaag 1050  
ttccaggcca tggacatctc cttgaaggag aatttgcggg aaatgattga 1100  
agagtctgca aataaatttg ggatgaagga catgcgcgtg cagactttca 1150  
gcattcattt tgggttcaag cacaagtttc tggccagcga cgtggtcttt 1200





	245		250		255
Asn Glu Asp Glu	Glu Asn Thr Leu Ser	Val Asp Cys Thr Arg	Ile		
	260	265	270		
Ser Phe Glu Tyr	Asp Leu Arg Leu Val	Leu Tyr Gln His Trp	Ser		
	275	280	285		
Leu His Asp Ser	Leu Cys Asn Thr Ser	Tyr Thr Ala Ala Arg	Phe		
	290	295	300		
Lys Leu Trp Ser	Val His Gly Gln Lys	Arg Leu Gln Glu Phe	Leu		
	305	310	315		
Ala Asp Met Gly	Leu Pro Leu Lys Gln	Val Lys Gln Lys Phe	Gln		
	320	325	330		
Ala Met Asp Ile	Ser Leu Lys Glu Asn	Leu Arg Glu Met Ile	Glu		
	335	340	345		
Glu Ser Ala Asn	Lys Phe Gly Met Lys	Asp Met Arg Val Gln	Thr		
	350	355	360		
Phe Ser Ile His	Phe Gly Phe Lys His	Lys Phe Leu Ala Ser	Asp		
	365	370	375		
Val Val Phe Ala	Thr Met Ser Leu Met	Glu Ser Pro Glu Lys	Asp		
	380	385	390		
Gly Ser Gly Thr	Asp His Phe Ile Gln	Ala Leu Asp Ser Leu	Ser		
	395	400	405		
Arg Ser Asn Leu	Asp Lys Leu Tyr His	Gly Leu Glu Leu Ala	Lys		
	410	415	420		
Lys Gln Leu Arg	Ala Thr Gln Gln Thr	Ile Ala Ser Cys Leu	Cys		
	425	430	435		
Thr Asn Leu Val	Ile Ser Gln Gly Pro	Phe Leu Tyr Cys Ser	Leu		
	440	445	450		
Met Glu Gly Thr	Pro Asp Val Met Leu	Phe Ser Arg Pro Ala	Ser		
	455	460	465		
Leu Ser Leu Leu	Ser Lys His Leu Leu	Lys Ser Phe Val Cys	Ser		
	470	475	480		
Thr Lys Asn Arg	Arg Cys Lys Leu Leu	Pro Leu Val Met Ala	Ala		
	485	490	495		
Pro Leu Ser Met	Glu His Gly Thr Val	Thr Val Val Gly Ile	Pro		
	500	505	510		
Pro Glu Thr Asp	Ser Ser Asp Arg Lys	Asn Phe Phe Gly Arg	Ala		
	515	520	525		
Phe Glu Lys Ala	Ala Glu Ser Thr Ser	Ser Arg Met Leu His	Asn		
	530	535	540		
His Phe Asp Leu	Ser Val Ile Glu Leu	Lys Ala Glu Asp Arg	Ser		
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Lys Phe Leu Asp	Ala Leu Ile Ser Leu	Leu Ser			

<210> 42  
 <211> 380  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 44, 118, 172, 183  
 <223> unknown base

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 ctcttcgtgg cctcggangt ggatgctctg tgtgcgtgca agatccttca 150  
 ggccttggtc cagtgtgacc angtgcaata tangctgggt ccagtttctg 200  
 ggtggcaaga acttgaaact gcatttcttg agcataaaga acagtttcat 250  
 tattttattc tcataaactg tggagctaata gtagacctat tggatattct 300  
 tcaacctgat gaagacacta tattctttgt gtgtgacacc cataggccag 350  
 tcaatgttgt caatgtatac aacgataccc 380

<210> 43  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 43  
 ttccgcaaag agttctacga ggtgg 25

<210> 44  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 44  
 attgacaaca ttgactggcc tatggg 26

<210> 45  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 45  
 gtggatgctc tgtgtgcgtg caagatcctt caggccttgt tccagtgtga 50

<210> 46

<211> 3089  
<212> DNA  
<213> Homo sapiens

<400> 46  
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tttctagtga accacgaagg gacgatacca gaaaacaccc tcaacccaaa 100  
ggaaatagac tacagcccca attggctgac tttggctata gaaaaaagaa 150  
aggaacgaaa agagacagtt ttttttggaa agctaagtct tccctttatc 200  
gagtcaagaa accccccctt cttgagctat ttacagcttt taacaattga 250  
gtaaagtacg ctccggtcac catggtgaca gccgccctgg gtcccgtctg 300  
ggcagcgctc ctgctctttc tcctgatgtg tgagatccgt atggtggagc 350  
tcacctttga cagagctgtg gccagcggct gccaacgggt ctgtgactct 400  
gaggaccccc tggatcctgc ccatgtatcc tcagcctctt cctccggccg 450  
ccccacgcc ctgcctgaga tcagacccta cattaatatc accatcctga 500  
agggtgacaa aggggaccca ggcccaatgg gcctgccagg gtacatgggc 550  
agggagggtc cccaagggga gcctggccct cagggcagca agggtgacaa 600  
gggggagatg ggcagccccg gcgccccgtg ccagaagcgc ttcttcgcct 650  
tctcagtggg ccgcaagacg gccctgcaca gcggcgagga cttccagacg 700  
ctgctcttcg aaagggtctt tgtgaacctt gatgggtgct ttgacatggc 750  
gaccggccag tttgctgctc ccctgcgtgg catctacttc ttcagcctca 800  
atgtgcacag ctggaattac aaggagacgt acgtgcacat tatgcataac 850  
cagaaagagg ctgtcatcct gtacgcgcag cccagcgagc gcagcatcat 900  
gcagagccag agtgtgatgc tggacctggc ctacggggac cgcgtctggg 950  
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ccagcacttc tcaaacttgg aaatgcatgc gaatcaccgc gggttcgtgt 1350  
taaatgcaga ttctgactca gcaggtctga gtgggtccag gattctgtgt 1400  
ttctcatatg ttctgggtg atgctgatgg ggtcagtcta tgaaccacac 1450

tggagcaacc aggttctagg actttctcaa tattctagta ctttctgaac 1500  
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taaagaatgc tgtctcctct tggaaaaaaaa aaaaaaaaa 3089

<210> 47  
<211> 259  
<212> PRT  
<213> Homo sapiens

<220>  
<221> Signal Peptide  
<222> 1-20  
<223> Signal Peptide

<220>  
<221> N-glycosylation Site  
<222> 72-75  
<223> N-glycosylation Site

<220>  
<221> Clq Domain Proteins  
<222> 144-178, 78-111, 84-117  
<223> Clq Domain Proteins

<400> 47  
Met Val Thr Ala Ala Leu Gly Pro Val Trp Ala Ala Leu Leu Leu  
1 5 10 15  
Phe Leu Leu Met Cys Glu Ile Arg Met Val Glu Leu Thr Phe Asp  
20 25 30  
Arg Ala Val Ala Ser Gly Cys Gln Arg Cys Cys Asp Ser Glu Asp  
35 40 45  
Pro Leu Asp Pro Ala His Val Ser Ser Ala Ser Ser Ser Gly Arg  
50 55 60  
Pro His Ala Leu Pro Glu Ile Arg Pro Tyr Ile Asn Ile Thr Ile  
65 70 75  
Leu Lys Gly Asp Lys Gly Asp Pro Gly Pro Met Gly Leu Pro Gly  
80 85 90  
Tyr Met Gly Arg Glu Gly Pro Gln Gly Glu Pro Gly Pro Gln Gly  
95 100 105  
Ser Lys Gly Asp Lys Gly Glu Met Gly Ser Pro Gly Ala Pro Cys  
110 115 120  
Gln Lys Arg Phe Phe Ala Phe Ser Val Gly Arg Lys Thr Ala Leu  
125 130 135  
His Ser Gly Glu Asp Phe Gln Thr Leu Leu Phe Glu Arg Val Phe  
140 145 150  
Val Asn Leu Asp Gly Cys Phe Asp Met Ala Thr Gly Gln Phe Ala  
155 160 165  
Ala Pro Leu Arg Gly Ile Tyr Phe Phe Ser Leu Asn Val His Ser  
170 175 180  
Trp Asn Tyr Lys Glu Thr Tyr Val His Ile Met His Asn Gln Lys  
185 190 195  
Glu Ala Val Ile Leu Tyr Ala Gln Pro Ser Glu Arg Ser Ile Met

	200		205		210
Gln Ser Gln Ser Val Met Leu Asp Leu Ala Tyr Gly Asp Arg Val					
	215		220		225
Trp Val Arg Leu Phe Lys Arg Gln Arg Glu Asn Ala Ile Tyr Ser					
	230		235		240
Asn Asp Phe Asp Thr Tyr Ile Thr Phe Ser Gly His Leu Ile Lys					
	245		250		255
Ala Glu Asp Asp					

<210> 48  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 48  
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<210> 49  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 49  
 ggtccccgta ggccaggtcc agc 23

<210> 50  
 <211> 50  
 <212> DNA  
 <213> Artificial sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 50  
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<210> 51  
 <211> 2768  
 <212> DNA  
 <213> Homo sapiens

<400> 51  
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 ccgcctcccg ggacagaaga tgtgctccag ggtccctctg ctgctgccgc 150  
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 aaaagatgaa gtgtgaaa 2768

<210> 52  
 <211> 673  
 <212> PRT  
 <213> Homo sapiens

<400> 52  
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 Ser Gln Pro Gln Thr Val Phe Cys Thr Ala Arg Gln Gly Thr Thr  
 35 40 45  
 Val Pro Arg Asp Val Pro Pro Asp Thr Val Gly Leu Tyr Val Phe  
 50 55 60  
 Glu Asn Gly Ile Thr Met Leu Asp Ala Gly Ser Phe Ala Gly Leu  
 65 70 75  
 Pro Gly Leu Gln Leu Leu Asp Leu Ser Gln Asn Gln Ile Ala Ser  
 80 85 90  
 Leu Pro Ser Gly Val Phe Gln Pro Leu Ala Asn Leu Ser Asn Leu

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Asp	Leu	Thr	Ala	Asn 110	Arg	Leu	His	Glu	Ile 115	Thr	Asn	Glu	Thr	Phe 120	
Arg	Gly	Leu	Arg	Arg 125	Leu	Glu	Arg	Leu	Tyr 130	Leu	Gly	Lys	Asn	Arg 135	
Ile	Arg	His	Ile	Gln 140	Pro	Gly	Ala	Phe	Asp 145	Thr	Leu	Asp	Arg	Leu 150	
Leu	Glu	Leu	Lys	Leu 155	Gln	Asp	Asn	Glu	Leu 160	Arg	Ala	Leu	Pro	Pro 165	
Leu	Arg	Leu	Pro	Arg 170	Leu	Leu	Leu	Leu	Asp 175	Leu	Ser	His	Asn	Ser 180	
Leu	Leu	Ala	Leu	Glu 185	Pro	Gly	Ile	Leu	Asp 190	Thr	Ala	Asn	Val	Glu 195	
Ala	Leu	Arg	Leu	Ala 200	Gly	Leu	Gly	Leu	Gln 205	Gln	Leu	Asp	Glu	Gly 210	
Leu	Phe	Ser	Arg	Leu 215	Arg	Asn	Leu	His	Asp 220	Leu	Asp	Val	Ser	Asp 225	
Asn	Gln	Leu	Glu	Arg 230	Val	Pro	Pro	Val	Ile 235	Arg	Gly	Leu	Arg	Gly 240	
Leu	Thr	Arg	Leu	Arg 245	Leu	Ala	Gly	Asn	Thr 250	Arg	Ile	Ala	Gln	Leu 255	
Arg	Pro	Glu	Asp	Leu 260	Ala	Gly	Leu	Ala	Ala 265	Leu	Gln	Glu	Leu	Asp 270	
Val	Ser	Asn	Leu	Ser 275	Leu	Gln	Ala	Leu	Pro 280	Gly	Asp	Leu	Ser	Gly 285	
Leu	Phe	Pro	Arg	Leu 290	Arg	Leu	Leu	Ala	Ala 295	Ala	Arg	Asn	Pro	Phe 300	
Asn	Cys	Val	Cys	Pro 305	Leu	Ser	Trp	Phe	Gly 310	Pro	Trp	Val	Arg	Glu 315	
Ser	His	Val	Thr	Leu 320	Ala	Ser	Pro	Glu	Glu 325	Thr	Arg	Cys	His	Phe 330	
Pro	Pro	Lys	Asn	Ala 335	Gly	Arg	Leu	Leu	Leu 340	Glu	Leu	Asp	Tyr	Ala 345	
Asp	Phe	Gly	Cys	Pro 350	Ala	Thr	Thr	Thr	Thr 355	Ala	Thr	Val	Pro	Thr 360	
Thr	Arg	Pro	Val	Val 365	Arg	Glu	Pro	Thr	Ala 370	Leu	Ser	Ser	Ser	Leu 375	
Ala	Pro	Thr	Trp	Leu 380	Ser	Pro	Thr	Ala	Pro 385	Ala	Thr	Glu	Ala	Pro 390	
Ser	Pro	Pro	Ser	Thr 395	Ala	Pro	Pro	Thr	Val 400	Gly	Pro	Val	Pro	Gln 405	
Pro	Gln	Asp	Cys	Pro	Pro	Ser	Thr	Cys	Leu	Asn	Gly	Gly	Thr	Cys	

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His Leu Gly Thr	Arg 425	His His Leu Ala	Cys 430	Leu Cys Pro Glu	Gly 435
Phe Thr Gly Leu	Tyr 440	Cys Glu Ser Gln	Met 445	Gly Gln Gly Thr	Arg 450
Pro Ser Pro Thr	Pro 455	Val Thr Pro Arg	Pro 460	Pro Arg Ser Leu	Thr 465
Leu Gly Ile Glu	Pro 470	Val Ser Pro Thr	Ser 475	Leu Arg Val Gly	Leu 480
Gln Arg Tyr Leu	Gln 485	Gly Ser Ser Val	Gln 490	Leu Arg Ser Leu	Arg 495
Leu Thr Tyr Arg	Asn 500	Leu Ser Gly Pro	Asp 505	Lys Arg Leu Val	Thr 510
Leu Arg Leu Pro	Ala 515	Ser Leu Ala Glu	Tyr 520	Thr Val Thr Gln	Leu 525
Arg Pro Asn Ala	Thr 530	Tyr Ser Val Cys	Val 535	Met Pro Leu Gly	Pro 540
Gly Arg Val Pro	Glu 545	Gly Glu Glu Ala	Cys 550	Gly Glu Ala His	Thr 555
Pro Pro Ala Val	His 560	Ser Asn His Ala	Pro 565	Val Thr Gln Ala	Arg 570
Glu Gly Asn Leu	Pro 575	Leu Leu Ile Ala	Pro 580	Ala Leu Ala Ala	Val 585
Leu Leu Ala Ala	Leu 590	Ala Ala Val Gly	Ala 595	Ala Tyr Cys Val	Arg 600
Arg Gly Arg Ala	Met 605	Ala Ala Ala Ala	Gln 610	Asp Lys Gly Gln	Val 615
Gly Pro Gly Ala	Gly 620	Pro Leu Glu Leu	Glu 625	Gly Val Lys Val	Pro 630
Leu Glu Pro Gly	Pro 635	Lys Ala Thr Glu	Gly 640	Gly Gly Glu Ala	Leu 645
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Val Leu Ile Leu Cys His Asn Arg Ile Gln Gln Leu Asp Leu Lys  
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Tyr	Pro	Thr	Lys	Phe	Gln	Tyr	Leu	Asn	Phe	Ala	Asn	Asn	Ile	Leu	
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Ser	Cys	Phe	Ala	Asn	Asn	Thr	Pro	Leu	Glu	His	Leu	Asp	Leu	Ser	
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Gly	Ser	Ile	Leu	Ile	Cys	Leu	Tyr	Glu	Ser	Tyr	Phe	Asp	Pro	Gly	665	670	675
Lys	Ser	Ile	Ser	Glu	Asn	Ile	Val	Ser	Phe	Ile	Glu	Lys	Ser	Tyr	680	685	690
Lys	Ser	Ile	Phe	Val	Leu	Ser	Pro	Asn	Phe	Val	Gln	Asn	Glu	Trp	695	700	705
Cys	His	Tyr	Glu	Phe	Tyr	Phe	Ala	His	His	Asn	Leu	Phe	His	Glu	710	715	720





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Asp	Ile	Asn	Asn	Asn 455	Phe	Pro	Asp	Leu	Asn 460	Thr	Leu	Leu	Trp	Glu 465
Ala	Glu	Asp	Arg	Gln 470	Asn	Val	Pro	Arg	Lys 475	Val	Pro	Asn	His	Tyr 480
Ile	Ala	Ile	Pro	Glu 485	Trp	Phe	Leu	Ser	Glu 490	Asn	Ala	Thr	Val	Ala 495
Ala	Glu	Thr	Arg	Ala	Val	Ile	Ala	Trp	Met	Glu	Lys	Ile	Pro	Phe

500	505	510
Val Leu Gly Gly Asn Leu Gln Gly Gly	Glu Leu Val Val Ala Tyr	
515	520	525
Pro Tyr Asp Leu Val Arg Ser Pro Trp	Lys Thr Gln Glu His Thr	
530	535	540
Pro Thr Pro Asp Asp His Val Phe Arg	Trp Leu Ala Tyr Ser Tyr	
545	550	555
Ala Ser Thr His Arg Leu Met Thr Asp	Ala Arg Arg Arg Val Cys	
560	565	570
His Thr Glu Asp Phe Gln Lys Glu Glu	Gly Thr Val Asn Gly Ala	
575	580	585
Ser Trp His Thr Val Ala Gly Ser Leu	Asn Asp Phe Ser Tyr Leu	
590	595	600
His Thr Asn Cys Phe Glu Leu Ser Ile	Tyr Val Gly Cys Asp Lys	
605	610	615
Tyr Pro His Glu Ser Gln Leu Pro Glu	Glu Trp Glu Asn Asn Arg	
620	625	630
Glu Ser Leu Ile Val Phe Met Glu Gln	Val His Arg Gly Ile Lys	
635	640	645
Gly Leu Val Arg Asp Ser His Gly Lys	Gly Ile Pro Asn Ala Ile	
650	655	660
Ile Ser Val Glu Gly Ile Asn His Asp	Ile Arg Thr Ala Asn Asp	
665	670	675
Gly Asp Tyr Trp Arg Leu Leu Asn Pro	Gly Glu Tyr Val Val Thr	
680	685	690
Ala Lys Ala Glu Gly Phe Thr Ala Ser	Thr Lys Asn Cys Met Val	
695	700	705
Gly Tyr Asp Met Gly Ala Thr Arg Cys	Asp Phe Thr Leu Ser Lys	
710	715	720
Thr Asn Met Ala Arg Ile Arg Glu Ile	Met Glu Lys Phe Gly Lys	
725	730	735
Gln Pro Val Ser Leu Pro Ala Arg Arg	Leu Lys Leu Arg Gly Arg	
740	745	750
Lys Arg Arg Gln Arg Gly		
755		

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<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 63

gttctcaatg agctacccgt cccc 24

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<220>  
<223> Synthetic oligonucleotide probe

<400> 64  
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<210> 65  
<211> 50  
<212> DNA  
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<220>  
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<210> 66  
<211> 2854  
<212> DNA  
<213> Homo sapiens

<400> 66  
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cccagccccg gcttcagctc tttcccaggt gttgactcca gctccagctt 150  
cagctccagc tccaggtcgg gctccagctc cagccgcagc ttaggcagcg 200  
gaggttctgt gtcccagttg ttttccaatt tcaccggctc cgtggatgac 250  
cgtgggacct gccagtgtc tgtttccctg ccagacacca cctttcccgt 300  
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ttgagaaaga actttctaaa gtgaggaat atgtccaatt aattagtgtg 400  
tatgaaaaga aactgttaaa cctaactgtc cgaattgaca tcatggagaa 450  
ggataccatt tcttacctg aactggactt cgagctgac aaggtagaag 500  
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 ggtacagcag tttacaacaa caacatgtac gtcaacatgt acaacaccgg 1050  
 gaatattgcc agagttaacc tgaccaccaa cacgattgct gtgactcaaa 1100  
 ctctccctaa tgctgcctat aataaccgct tttcatatgc taatgttgct 1150  
 tggcaagata ttgactttgc tgtggatgag aatggattgt ggggttattta 1200  
 ttcaactgaa gccagcactg gtaacatggt gattagtaaa ctcaatgaca 1250  
 ccacacttca ggtgctaaac acttgggtata ccaagcagta taaaccatct 1300  
 gcttctaacg ccttcatggt atgtgggggt ctgtatgcca cccgtactat 1350  
 gaacaccaga acagaagaga ttttttacta ttatgacaca aacacaggga 1400  
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Ala	Ile	Arg	Arg	Glu	Ile	Val	Ala	Leu	Lys	Thr	Lys	Leu	Lys	Glu	215	220	225
Cys	Glu	Ala	Ser	Lys	Asp	Gln	Asn	Thr	Pro	Val	Val	His	Pro	Pro	230	235	240
Pro	Thr	Pro	Gly	Ser	Cys	Gly	His	Gly	Gly	Val	Val	Asn	Ile	Ser	245	250	255
Lys	Pro	Ser	Val	Val	Gln	Leu	Asn	Trp	Arg	Gly	Phe	Ser	Tyr	Leu	260	265	270
Tyr	Gly	Ala	Trp	Gly	Arg	Asp	Tyr	Ser	Pro	Gln	His	Pro	Asn	Lys	275	280	285
Gly	Leu	Tyr	Trp	Val	Ala	Pro	Leu	Asn	Thr	Asp	Gly	Arg	Leu	Leu	290	295	300
Glu	Tyr	Tyr	Arg	Leu	Tyr	Asn	Thr	Leu	Asp	Asp	Leu	Leu	Leu	Tyr	305	310	315
Ile	Asn	Ala	Arg	Glu	Leu	Arg	Ile	Thr	Tyr	Gly	Gln	Gly	Ser	Gly	320	325	330
Thr	Ala	Val	Tyr	Asn	Asn	Asn	Met	Tyr	Val	Asn	Met	Tyr	Asn	Thr	335	340	345
Gly	Asn	Ile	Ala	Arg	Val	Asn	Leu	Thr	Thr	Asn	Thr	Ile	Ala	Val	350	355	360
Thr	Gln	Thr	Leu	Pro	Asn	Ala	Ala	Tyr	Asn	Asn	Arg	Phe	Ser	Tyr	365	370	375
Ala	Asn	Val	Ala	Trp	Gln	Asp	Ile	Asp	Phe	Ala	Val	Asp	Glu	Asn	380	385	390
Gly	Leu	Trp	Val	Ile	Tyr	Ser	Thr	Glu	Ala	Ser	Thr	Gly	Asn	Met	395	400	405
Val	Ile	Ser	Lys	Leu	Asn	Asp	Thr	Thr	Leu	Gln	Val	Leu	Asn	Thr	410	415	420
Trp	Tyr	Thr	Lys	Gln	Tyr	Lys	Pro	Ser	Ala	Ser	Asn	Ala	Phe	Met	425	430	435
Val	Cys	Gly	Val	Leu	Tyr	Ala	Thr	Arg	Thr	Met	Asn	Thr	Arg	Thr	440	445	450
Glu	Glu	Ile	Phe	Tyr	Tyr	Tyr	Asp	Thr	Asn	Thr	Gly	Lys	Glu	Gly	455	460	465
Lys	Leu	Asp	Ile	Val	Met	His	Lys	Met	Gln	Glu	Lys	Val	Gln	Ser	470	475	480
Ile	Asn	Tyr	Asn	Pro	Phe	Asp	Gln	Lys	Leu	Tyr	Val	Tyr	Asn	Asp	485	490	495
Gly	Tyr	Leu	Leu	Asn	Tyr	Asp	Leu	Ser	Val	Leu	Gln	Lys	Pro	Gln	500	505	510

<210> 68  
 <211> 410  
 <212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 206, 217, 387

<223> unknown base

<400> 68

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cctgtcgtcc accctcctcc cactccaggg agctgtggtc atggtggtgt 100

ggtgaacatc agcaaaccgt ctgtggttca gctcaactgg agagggtttt 150

cttatctata tgggtgcttg ggtagggatt actctcccca gcatccaaac 200

aaaggnatgt attggngggc gccattgaat acagatggga gactggttga 250

gtattataga ctgtacaacc cactggatga ttgctattg tatataaatg 300

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aacaacaaca tgtacgtcaa catgtacaac accgggnata ttgccagagt 400

taacctgacc 410

<210> 69

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 69

agctgtggtc atggtggtgt ggtg 24

<210> 70

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 70

ctaccttggc cataggtgat ccgc 24

<210> 71

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 71

catcagcaaa ccgtctgtgg ttcagctcaa ctggagaggg tt 42

<210> 72

<211> 3127

<212> DNA

<213> Homo sapiens

<400> 72

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tggtgctgtg ctccatggcg agctggatac catgtttgtg tggaagtgcc 150  
ccgtgtttgc tatgccgatg ctgtcctagt ggaaacaact ccactgtaac 200  
tagattgatc tatgcacttt tcttgcttgt tggagtatgt gtagcttgtg 250  
taatgttgat accaggaatg gaagaacaac tgaataagat tcctggattt 300  
tgtgagaatg agaaagggtg tgtcccttgt aacattttgg ttggctataa 350  
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cacaatggat tttggttctt taaatttgcg gcagcaattg caattattat 500  
tggtgcatcc ttcattccag aaggaacttt tacaactgtg tggttttatg 550  
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attatctgct gtcttttagt gctatcgtcc tgttctttgt ctactacact 750  
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cctctgcgtt ggtgcttctg taatgtctat actgccaaaa atccaagaat 850  
cacaaccaag atctggtttg ttacagtctt cagtaattac agtctacaca 900  
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aagatggtgg agctagaagt gatggatcac tggaggatgg ggacgatgtt 1200  
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 caggtaggga gtgttttagtg gacaatagtg taggttatgg atggaggtgt 2000  
 cggtactaaa ttgaataacg agtaaataat cttacttggg tagagatggc 2050  
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 aatagctcag atagctaatt aggaaatttc aagttggcca ataatagcat 2650  
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<210> 73  
 <211> 453  
 <212> PRT  
 <213> Homo sapiens

<400> 73

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				20					25					30
Ser	Gly	Asn	Asn	Ser	Thr	Val	Thr	Arg	Leu	Ile	Tyr	Ala	Leu	Phe
				35					40					45
Leu	Leu	Val	Gly	Val	Cys	Val	Ala	Cys	Val	Met	Leu	Ile	Pro	Gly
				50					55					60
Met	Glu	Glu	Gln	Leu	Asn	Lys	Ile	Pro	Gly	Phe	Cys	Glu	Asn	Glu
				65					70					75
Lys	Gly	Val	Val	Pro	Cys	Asn	Ile	Leu	Val	Gly	Tyr	Lys	Ala	Val
				80					85					90
Tyr	Arg	Leu	Cys	Phe	Gly	Leu	Ala	Met	Phe	Tyr	Leu	Leu	Leu	Ser
				95					100					105
Leu	Leu	Met	Ile	Lys	Val	Lys	Ser	Ser	Ser	Asp	Pro	Arg	Ala	Ala
				110					115					120
Val	His	Asn	Gly	Phe	Trp	Phe	Phe	Lys	Phe	Ala	Ala	Ala	Ile	Ala
				125					130					135
Ile	Ile	Ile	Gly	Ala	Phe	Phe	Ile	Pro	Glu	Gly	Thr	Phe	Thr	Thr
				140					145					150
Val	Trp	Phe	Tyr	Val	Gly	Met	Ala	Gly	Ala	Phe	Cys	Phe	Ile	Leu
				155					160					165
Ile	Gln	Leu	Val	Leu	Leu	Ile	Asp	Phe	Ala	His	Ser	Trp	Asn	Glu
				170					175					180
Ser	Trp	Val	Glu	Lys	Met	Glu	Glu	Gly	Asn	Ser	Arg	Cys	Trp	Tyr
				185					190					195
Ala	Ala	Leu	Leu	Ser	Ala	Thr	Ala	Leu	Asn	Tyr	Leu	Leu	Ser	Leu
				200					205					210
Val	Ala	Ile	Val	Leu	Phe	Phe	Val	Tyr	Tyr	Thr	His	Pro	Ala	Ser
				215					220					225
Cys	Ser	Glu	Asn	Lys	Ala	Phe	Ile	Ser	Val	Asn	Met	Leu	Leu	Cys
				230					235					240
Val	Gly	Ala	Ser	Val	Met	Ser	Ile	Leu	Pro	Lys	Ile	Gln	Glu	Ser
				245					250					255
Gln	Pro	Arg	Ser	Gly	Leu	Leu	Gln	Ser	Ser	Val	Ile	Thr	Val	Tyr
				260					265					270
Thr	Met	Tyr	Leu	Thr	Trp	Ser	Ala	Met	Thr	Asn	Glu	Pro	Glu	Thr
				275					280					285

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Asn	Cys	Asn	Pro	Ser	Leu	Leu	Ser	Ile	Ile	Gly	Tyr	Asn	Thr	Thr	
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Ser	Thr	Val	Pro	Lys	Glu	Gly	Gln	Ser	Val	Gln	Trp	Trp	His	Ala	
				305					310					315	
Gln	Gly	Ile	Ile	Gly	Leu	Ile	Leu	Phe	Leu	Leu	Cys	Val	Phe	Tyr	
				320					325					330	
Ser	Ser	Ile	Arg	Thr	Ser	Asn	Asn	Ser	Gln	Val	Asn	Lys	Leu	Thr	
				335					340					345	
Leu	Thr	Ser	Asp	Glu	Ser	Thr	Leu	Ile	Glu	Asp	Gly	Gly	Ala	Arg	
				350					355					360	
Ser	Asp	Gly	Ser	Leu	Glu	Asp	Gly	Asp	Asp	Val	His	Arg	Ala	Val	
				365					370					375	
Asp	Asn	Glu	Arg	Asp	Gly	Val	Thr	Tyr	Ser	Tyr	Ser	Phe	Phe	His	
				380					385					390	
Phe	Met	Leu	Phe	Leu	Ala	Ser	Leu	Tyr	Ile	Met	Met	Thr	Leu	Thr	
				395					400					405	
Asn	Trp	Ser	Arg	Tyr	Glu	Pro	Ser	Arg	Glu	Met	Lys	Ser	Gln	Trp	
				410					415					420	
Thr	Ala	Val	Trp	Val	Lys	Ile	Ser	Ser	Ser	Trp	Ile	Gly	Ile	Val	
				425					430					435	
Leu	Tyr	Val	Trp	Thr	Leu	Val	Ala	Pro	Leu	Val	Leu	Thr	Asn	Arg	
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Asp Phe Asp

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 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 48, 163  
 <223> unknown base

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 ataccatggt tgtgtggaag tgccccgtgt ttgctatgcc gatgctgtcc 150  
 tagtggaac aantccactg taactagatt gatctatgca cttttcttgc 200  
 ttgttggagt atgtgtagct tgtgtaatgt tgataccagg aatggaagaa 250  
 caactgaata agattcctgg attttgtgag aatgagaaag gtgttgtccc 300  
 ttgtaacatt ttggttggct ataaagctgt atatcgtttg tgctttgggt 350  
 tggctatggt ctatcttctt ctctctttac taatgatcaa agtgaagagt 400

agcagtgatc ctagagctgc agtgacacaat ggatttttggg tcttttaaatt 450  
tgctgcagca attgcaatta ttattggggc 480

<210> 75  
<211> 438  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 32, 65, 92, 121, 142, 154, 170, 293, 315, 323  
<223> unknown base

<400> 75  
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tgctgtccta gtggaacaaa ntccactgta attagattga tntatgcact 150  
tttnttgctt gttggagtan gtgtagcttg tgtaatgttg ataccaggaa 200  
tggaagaaca actgaataag attcctggat tttgtgagaa tgagaaaggt 250  
gttgtccctt gtaacatttt gggtggctat aaagctgtat atngtttgtg 300  
ctttggtttg gctangttct atnttcttct ctctttacta atgatcaaag 350  
tgaagagtag cagtgatcct agagctgcag tgcacaatgg attttggttt 400  
tttaaatttg ctgcagcaat tgcaattatt attggggc 438

<210> 76  
<211> 473  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 48  
<223> unknown base

<400> 76  
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gttctatctt cttctctctt tactaatgat caaagtgaag agtagcagtg 400  
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<210> 77  
<211> 666  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 21, 111  
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<400> 77  
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cttcattcca gaaggaactt ttacaactgt gtggttttat gtaggcattg 400  
cagggtgcctt ttgtttcatc ctcatacaac tagtcttact tattgatttt 450  
gcacattcat ggaatgaatc gtgggttgaa aaaatggaag aagggaactc 500  
gagatgttgg tatgcagcct tgttatcagc tacagctctg aattatctgc 550  
tgtctttagt tgctatcgtc ctgttctttg tctactacac tcatccagcc 600  
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tggtgcttct gtaatg 666

<210> 78  
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<223> Synthetic oligonucleotide probe

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<210> 79  
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<212> DNA  
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<220>  
<223> Synthetic oligonucleotide probe

<400> 79  
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<210> 80  
<211> 26

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 80  
aatccattgt gcactgcagc tctagg 26

<210> 81  
<211> 23  
<212> DNA  
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<220>  
<223> Synthetic oligonucleotide probe

<400> 81  
gagcatgccca ccaactggact gac 23

<210> 82  
<211> 54  
<212> DNA  
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<220>  
<223> Synthetic oligonucleotide probe

<400> 82  
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gcac 54

<210> 83  
<211> 3906  
<212> DNA  
<213> Homo sapiens

<400> 83  
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cgcgaggctt tcggcaaagg cagtcgagtg tttgcagacc ggggagagtc 150  
ctgtgaaagc agataaaaga aaacatttat taacgtgtca ttacgagggg 200  
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 ttcgtgacca caccatgtg ctgcccctca cgctcctcca tctcactgg 900  
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 gaggagaact ttctgcccc gtaccagcgt gtgaaggacc tgtgtcagc 1950  
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 gaaaaa 3906

<210> 84  
 <211> 867  
 <212> PRT  
 <213> Homo sapiens

<400> 84  
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 35 40 45  
 Ile Ile Leu Val Leu Thr Asp Asp Gln Asp Val Glu Leu Gly Ser  
 50 55 60  
 Met Gln Val Met Asn Lys Thr Arg Arg Ile Met Glu Gln Gly Gly  
 65 70 75  
 Ala His Phe Ile Asn Ala Phe Val Thr Thr Pro Met Cys Cys Pro  
 80 85 90  
 Ser Arg Ser Ser Ile Leu Thr Gly Lys Tyr Val His Asn His Asn  
 95 100 105  
 Thr Tyr Thr Asn Asn Glu Asn Cys Ser Ser Pro Ser Trp Gln Ala  
 110 115 120  
 Gln His Glu Ser Arg Thr Phe Ala Val Tyr Leu Asn Ser Thr Gly  
 125 130 135  
 Tyr Arg Thr Ala Phe Phe Gly Lys Tyr Leu Asn Glu Tyr Asn Gly  
 140 145 150  
 Ser Tyr Val Pro Pro Gly Trp Lys Glu Trp Val Gly Leu Leu Lys  
 155 160 165  
 Asn Ser Arg Phe Tyr Asn Tyr Thr Leu Cys Arg Asn Gly Val Lys  
 170 175 180  
 Glu Lys His Gly Ser Asp Tyr Ser Lys Asp Tyr Leu Thr Asp Leu  
 185 190 195  
 Ile Thr Asn Asp Ser Val Ser Phe Phe Arg Thr Ser Lys Lys Met  
 200 205 210  
 Tyr Pro His Arg Pro Val Leu Met Val Ile Ser His Ala Ala Pro  
 215 220 225  
 His Gly Pro Glu Asp Ser Ala Pro Gln Tyr Ser Arg Leu Phe Pro  
 230 235 240  
 Asn Ala Ser Gln His Ile Thr Pro Ser Tyr Asn Tyr Ala Pro Asn  
 245 250 255

Pro	Asp	Lys	His	Trp	Ile	Met	Arg	Tyr	Thr	Gly	Pro	Met	Lys	Pro	
				260					265					270	
Ile	His	Met	Glu	Phe	Thr	Asn	Met	Leu	Gln	Arg	Lys	Arg	Leu	Gln	
				275					280					285	
Thr	Leu	Met	Ser	Val	Asp	Asp	Ser	Met	Glu	Thr	Ile	Tyr	Asn	Met	
				290					295					300	
Leu	Val	Glu	Thr	Gly	Glu	Leu	Asp	Asn	Thr	Tyr	Ile	Val	Tyr	Thr	
				305					310					315	
Ala	Asp	His	Gly	Tyr	His	Ile	Gly	Gln	Phe	Gly	Leu	Val	Lys	Gly	
				320					325					330	
Lys	Ser	Met	Pro	Tyr	Glu	Phe	Asp	Ile	Arg	Val	Pro	Phe	Tyr	Val	
				335					340					345	
Arg	Gly	Pro	Asn	Val	Glu	Ala	Gly	Cys	Leu	Asn	Pro	His	Ile	Val	
				350					355					360	
Leu	Asn	Ile	Asp	Leu	Ala	Pro	Thr	Ile	Leu	Asp	Ile	Ala	Gly	Leu	
				365					370					375	
Asp	Ile	Pro	Ala	Asp	Met	Asp	Gly	Lys	Ser	Ile	Leu	Lys	Leu	Leu	
				380					385					390	
Asp	Thr	Glu	Arg	Pro	Val	Asn	Arg	Phe	His	Leu	Lys	Lys	Lys	Met	
				395					400					405	
Arg	Val	Trp	Arg	Asp	Ser	Phe	Leu	Val	Glu	Arg	Gly	Lys	Leu	Leu	
				410					415					420	
His	Lys	Arg	Asp	Asn	Asp	Lys	Val	Asp	Ala	Gln	Glu	Glu	Asn	Phe	
				425					430					435	
Leu	Pro	Lys	Tyr	Gln	Arg	Val	Lys	Asp	Leu	Cys	Gln	Arg	Ala	Glu	
				440					445					450	
Tyr	Gln	Thr	Ala	Cys	Glu	Gln	Leu	Gly	Gln	Lys	Trp	Gln	Cys	Val	
				455					460					465	
Glu	Asp	Ala	Thr	Gly	Lys	Leu	Lys	Leu	His	Lys	Cys	Lys	Gly	Pro	
				470					475					480	
Met	Arg	Leu	Gly	Gly	Ser	Arg	Ala	Leu	Ser	Asn	Leu	Val	Pro	Lys	
				485					490					495	
Tyr	Tyr	Gly	Gln	Gly	Ser	Glu	Ala	Cys	Thr	Cys	Asp	Ser	Gly	Asp	
				500					505					510	
Tyr	Lys	Leu	Ser	Leu	Ala	Gly	Arg	Arg	Lys	Lys	Leu	Phe	Lys	Lys	
				515					520					525	
Lys	Tyr	Lys	Ala	Ser	Tyr	Val	Arg	Ser	Arg	Ser	Ile	Arg	Ser	Val	
				530					535					540	
Ala	Ile	Glu	Val	Asp	Gly	Arg	Val	Tyr	His	Val	Gly	Leu	Gly	Asp	
				545					550					555	
Ala	Ala	Gln	Pro	Arg	Asn	Leu	Thr	Lys	Arg	His	Trp	Pro	Gly	Ala	
				560					565					570	



<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 85

gaagccggct gtctgaatc 19

<210> 86

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 86

ggccagctat ctccgcag 18

<210> 87

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 87

aagggcctgc aagagaag 18

<210> 88

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 88

cactgggaca actgtggg 18

<210> 89

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 89

cagaggcaac gtggagag 18

<210> 90

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 90

aagtattgtc atacagtgtt c 21



<210> 91  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 91  
tagtacttgg gcacgagggt ggag 24

<210> 92  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 92  
tcataccaac tgctgggtcat tggc 24

<210> 93  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 93  
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<210> 94  
<211> 971  
<212> DNA  
<213> Homo sapiens

<400> 94  
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 ccctgagaat gtccttttgg tttggagaag gcagtgtgag gctgcacagt 900  
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<210> 95  
 <211> 115  
 <212> PRT  
 <213> Homo sapiens

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                     20                    25                    30  
 Cys Leu Phe His Gly Arg Gln Asp Cys Asp Val Glu Arg Asn Arg  
                     35                    40                    45  
 Thr Ala Ala Gly Gly Asn Arg Val Arg Arg Ala Gln Pro Trp Pro  
                     50                    55                    60  
 Phe Arg Arg Arg Gly His Leu Gly Ile Phe His His His Arg His  
                     65                    70                    75  
 Pro Gly His Val Ser His Val Pro Asn Val Gly Leu His His His  
                     80                    85                    90  
 His His Pro Arg His Thr Pro His His Leu His His His His His  
                     95                    100                    105  
 Pro His Arg His His Pro Arg His Ala Arg  
                     110                    115

<210> 96  
 <211> 1312  
 <212> DNA  
 <213> Homo sapiens

<400> 96  
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 aagtgagtgc tgggtcaccc cccatccgca acgtcactgt ggcctacaag 200  
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 aaaaaaaaaa aa 1312

<210> 97  
 <211> 313  
 <212> PRT  
 <213> Homo sapiens

<400> 97  
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 20 25 30  
 Leu Ala Gly Val Glu Val Ser Ala Gly Ser Pro Pro Ile Arg Asn  
 35 40 45  
 Val Thr Val Ala Tyr Lys Phe His Met Gly Leu Tyr Gly Glu Thr  
 50 55 60  
 Gly Arg Leu Phe Thr Glu Ser Cys Ser Ile Ser Pro Lys Leu Arg  
 65 70 75



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gtgattccag gtctggagca gagtcttctc gacatgtgtg tgggagagaa 400  
gcgaagggca atcattcctt ctacttggc ctatggaaaa cggggatttc 450  
caccatctgt cccagcggat gcagtgggac agtatgacgt ggagctgatt 500  
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acctatacag aaaggccaat agacccaaag tctccaaaaa gaagctcaag 650  
gaagagaaac gaaacaagag caaaaagaaa taataaataa taaattttta 700  
aaaacttaaa aaaaaaaaaa aaaaa 725

<210> 99  
<211> 201  
<212> PRT  
<213> Homo sapiens

<400> 99  
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20 25  
Thr Glu Ser Pro Val Arg Thr Leu Gln Val Glu Thr Leu Val Glu 45  
35 40  
Pro Pro Glu Pro Cys Ala Glu Pro Ala Ala Phe Gly Asp Thr Leu 60  
50 55  
His Ile His Tyr Thr Gly Ser Leu Val Asp Gly Arg Ile Ile Asp 75  
65 70  
Thr Ser Leu Thr Arg Asp Pro Leu Val Ile Glu Leu Gly Gln Lys 90  
80 85  
Gln Val Ile Pro Gly Leu Glu Gln Ser Leu Leu Asp Met Cys Val 105  
95 100  
Gly Glu Lys Arg Arg Ala Ile Ile Pro Ser His Leu Ala Tyr Gly 120  
110 115  
Lys Arg Gly Phe Pro Pro Ser Val Pro Ala Asp Ala Val Val Gln 135  
125 130  
Tyr Asp Val Glu Leu Ile Ala Leu Ile Arg Ala Asn Tyr Trp Leu 150  
140 145  
Lys Leu Val Lys Gly Ile Leu Pro Leu Val Gly Met Ala Met Val 165  
155 160  
Pro Ala Leu Leu Gly Leu Ile Gly Tyr His Leu Tyr Arg Lys Ala 180  
170 175  
Asn Arg Pro Lys Val Ser Lys Lys Lys Leu Lys Glu Glu Lys Arg

Asn Lys Ser Lys Lys Lys  
200

<210> 100  
<211> 705  
<212> DNA  
<213> Homo sapiens

<400> 100  
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cgctccatct gctgctgctg ctgctgctca gtgcggcggt gtgcggggct 150  
gaggctgggc tcgaaaccga aagtcccgtc cggaccctcc aagtggagac 200  
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tatacagaaa ggccaataga cccaaagtct ccaaaaagaa gctcaaggaa 650  
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<210> 101  
<211> 543  
<212> DNA  
<213> Homo sapiens

<400> 101  
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gaaccatgtg ccgagcccgc tgcttttggg gacacgcttc acatacacta 100  
cacgggaagc ttggtagatg gacgtattat tgacacctcc ctgaccagag 150  
accctctggt tatagaactt ggccaaaagc aggtgattcc aggtctggag 200  
cagagtcttc tcgacatgtg tgtgggagag aagcgaaggg caatcattcc 250  
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 tattgcttcc attgctgctg gtgtactatt ttttacaggc tgggtggatta 250  
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<210> 103

<211> 157

<212> PRT

<213> Homo sapiens

<400> 103

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20 25 30  
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35 40 45  
Tyr Pro Thr Met Lys Asp Phe Asn His Ser Tyr His Ala Cys Gly  
50 55 60  
Val Ile Ala Thr Ile Ala Phe Leu Met Ile Asn Ala Val Ser Asn  
65 70 75  
Gly Gln Val Arg Gly Asp Ser Tyr Ser Glu Gly Cys Leu Gly Gln  
80 85 90  
Thr Gly Ala Arg Ile Trp Leu Phe Val Gly Phe Met Leu Ala Phe  
95 100 105  
Gly Ser Leu Ile Ala Ser Met Trp Ile Leu Phe Gly Gly Tyr Val  
110 115 120  
Ala Lys Glu Lys Asp Ile Val Tyr Pro Gly Ile Ala Val Phe Phe  
125 130 135  
Gln Asn Ala Phe Ile Phe Phe Gly Gly Leu Val Phe Lys Phe Gly  
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Arg Thr Glu Asp Leu Trp Gln  
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<211> 545

<212> DNA

<213> Homo sapiens

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agcgcaatac tattgcttcc attgctgctg gtgtactatt ttttacaggc 200  
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 <211> 490  
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 <213> Homo sapiens

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 <221> unsure  
 <222> 31, 39, 108, 145, 179, 219, 412, 479  
 <223> unknown base

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<210> 106  
 <211> 466  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 26, 38, 81, 115, 207, 329, 380, 446, 449  
 <223> unknown base

<400> 106  
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atttttccag aatgcc 466

<210> 107

<211> 377

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 52, 67, 70, 78, 105, 144, 150, 209, 266, 268, 282, 310, 331, 356

<223> unknown base

<400> 107

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tcataccatg cctgtggtgt tatagcaacc atagccttcc taatgattaa 200

tgcagtatng aatggacaag tccgaggtga tagttacagt gaaggttggt 250

tgggtcaaac aggtgntngc atttggcttt tngttggttt catgttggtcc 300

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taaagnaaaa gacatagtat accctgt 377

<210> 108

<211> 552

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 12, 25, 65, 130, 437, 537

<223> unknown base

<400> 108

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tg 552

<210> 109

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 109

gggtggatgg tactgctgca tcc 23

<210> 110

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 110

tgttgctgctg tgggaaatca gatgtg 26

<210> 111

<211> 46

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

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<210> 112

<211> 3004

<212> DNA

<213> Homo sapiens

<400> 112

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Glu Arg Tyr Val	Ser Met Pro Arg Glu	Glu Ala Ala Glu His Ile	425	430	435
Pro Leu Leu Phe	Phe Ala Phe Pro Ser	Ala Lys Asp Pro Thr Trp	440	445	450
Glu Asp Arg Phe	Pro Gly Arg Ser Thr	Met Ile Met Leu Ile Pro	455	460	465
Thr Ala Tyr Glu	Trp Phe Glu Glu Trp	Gln Ala Glu Leu Lys Gly	470	475	480
Lys Arg Gly Ser	Asp Tyr Glu Thr Phe	Lys Asn Ser Phe Val Glu	485	490	495
Ala Ser Met Ser	Val Val Leu Lys Leu	Phe Pro Gln Leu Glu Gly	500	505	510
Lys Val Glu Ser	Val Thr Ala Gly Ser	Pro Leu Thr Asn Gln Phe	515	520	525
Tyr Leu Ala Ala	Pro Arg Gly Ala Cys	Tyr Gly Ala Asp His Asp	530	535	540
Leu Gly Arg Leu	His Pro Cys Val Met	Ala Ser Leu Arg Ala Gln	545	550	555
Ser Pro Ile Pro	Asn Leu Tyr Leu Thr	Gly Gln Asp Ile Phe Thr	560	565	570
Cys Gly Leu Val	Gly Ala Leu Gln Gly	Ala Leu Leu Cys Ser Ser	575	580	585
Ala Ile Leu Lys	Arg Asn Leu Tyr Ser	Asp Leu Lys Asn Leu Asp	590	595	600
Ser Arg Ile Arg	Ala Gln Lys Lys Lys	Asn	605	610	

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 <212> DNA  
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 ctattcaaga agaggaagac agcctcaaga gccaaagagg ggaaagtgtc 350  
 acagaagata tcagctttct agagtctcca aatccagaaa acaaggacta 400  
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Glu	Ser	Leu	Asp	Ser	Lys	Thr	Thr	Leu	Thr	Ser	Asp	Glu	Ser	Val	35	40	45
Lys	Asp	His	Thr	Thr	Ala	Gly	Arg	Val	Val	Ala	Gly	Gln	Ile	Phe	50	55	60
Leu	Asp	Ser	Glu	Glu	Ser	Glu	Leu	Glu	Ser	Ser	Ile	Gln	Glu	Glu	65	70	75
Glu	Asp	Ser	Leu	Lys	Ser	Gln	Glu	Gly	Glu	Ser	Val	Thr	Glu	Asp	80	85	90
Ile	Ser	Phe	Leu	Glu	Ser	Pro	Asn	Pro	Glu	Asn	Lys	Asp	Tyr	Glu	95	100	105
Glu	Pro	Lys	Lys	Val	Arg	Lys	Pro	Ala	Leu	Thr	Ala	Ile	Glu	Gly	110	115	120
Thr	Ala	His	Gly	Glu	Pro	Cys	His	Phe	Pro	Phe	Leu	Phe	Leu	Asp	125	130	135
Lys	Glu	Tyr	Asp	Glu	Cys	Thr	Ser	Asp	Gly	Arg	Glu	Asp	Gly	Arg	140	145	150
Leu	Trp	Cys	Ala	Thr	Thr	Tyr	Asp	Tyr	Lys	Ala	Asp	Glu	Lys	Trp	155	160	165
Gly	Phe	Cys	Glu	Thr	Glu	Glu	Glu	Ala	Ala	Lys	Arg	Arg	Gln	Met	170	175	180
Gln	Glu	Ala	Glu	Met	Met	Tyr	Gln	Thr	Gly	Met	Lys	Ile	Leu	Asn	185	190	195
Gly	Ser	Asn	Lys	Lys	Ser	Gln	Lys	Arg	Glu	Ala	Tyr	Arg	Tyr	Leu	200	205	210
Gln	Lys	Ala	Ala	Ser	Met	Asn	His	Thr	Lys	Ala	Leu	Glu	Arg	Val	215	220	225
Ser	Tyr	Ala	Leu	Leu	Phe	Gly	Asp	Tyr	Leu	Pro	Gln	Asn	Ile	Gln	230	235	240
Ala	Ala	Arg	Glu	Met	Phe	Glu	Lys	Leu	Thr	Glu	Glu	Gly	Ser	Pro	245	250	255
Lys	Gly	Gln	Thr	Ala	Leu	Gly	Phe	Leu	Tyr	Ala	Ser	Gly	Leu	Gly	260	265	270
Val	Asn	Ser	Ser	Gln	Ala	Lys	Ala	Leu	Val	Tyr	Tyr	Thr	Phe	Gly	275	280	285
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Leu

<210> 116  
 <211> 584  
 <212> DNA  
 <213> Homo sapiens

<400> 116

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<210> 117  
 <211> 123  
 <212> PRT  
 <213> Homo sapiens

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 Phe Pro Gly Gln Val Ala Gln Leu Ser Cys Thr Leu Ser Pro Gln  
 35 40 45  
 His Val Thr Ile Arg Asp Tyr Gly Val Ser Trp Tyr Gln Gln Arg  
 50 55 60  
 Ala Gly Ser Ala Pro Arg Tyr Leu Leu Tyr Tyr Arg Ser Glu Glu  
 65 70 75  
 Asp His His Arg Pro Ala Asp Ile Pro Asp Arg Phe Ser Ala Ala  
 80 85 90  
 Lys Asp Glu Ala His Asn Ala Cys Val Leu Thr Ile Ser Pro Val  
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<210> 118  
 <211> 3402  
 <212> DNA  
 <213> Homo sapiens

<400> 118

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 <211> 504  
 <212> PRT  
 <213> Homo sapiens

<400> 119

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Met	Ala	Asp	Lys	Val	Val	Pro	Arg	Gln	Val	Ala	Arg	Leu	Gly	Arg	35	40	45	
Thr	Val	Arg	Leu	Gln	Cys	Pro	Val	Glu	Gly	Asp	Pro	Pro	Pro	Leu	50	55	60	
Thr	Met	Trp	Thr	Lys	Asp	Gly	Arg	Thr	Ile	His	Ser	Gly	Trp	Ser	65	70	75	
Arg	Phe	Arg	Val	Leu	Pro	Gln	Gly	Leu	Lys	Val	Lys	Gln	Val	Glu	80	85	90	
Arg	Glu	Asp	Ala	Gly	Val	Tyr	Val	Cys	Lys	Ala	Thr	Asn	Gly	Phe	95	100	105	
Gly	Ser	Leu	Ser	Val	Asn	Tyr	Thr	Leu	Val	Val	Leu	Asp	Asp	Ile	110	115	120	
Ser	Pro	Gly	Lys	Glu	Ser	Leu	Gly	Pro	Asp	Ser	Ser	Ser	Gly	Gly	125	130	135	
Gln	Glu	Asp	Pro	Ala	Ser	Gln	Gln	Trp	Ala	Arg	Pro	Arg	Phe	Thr	140	145	150	
Gln	Pro	Ser	Lys	Met	Arg	Arg	Arg	Val	Ile	Ala	Arg	Pro	Val	Gly	155	160	165	
Ser	Ser	Val	Arg	Leu	Lys	Cys	Val	Ala	Ser	Gly	His	Pro	Arg	Pro	170	175	180	
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Ala	Ala	Glu	Pro	Arg	Lys	Lys	Lys	Trp	Thr	Leu	Ser	Leu	Lys	Asn	200	205	210	
Leu	Arg	Pro	Glu	Asp	Ser	Gly	Lys	Tyr	Thr	Cys	Arg	Val	Ser	Asn	215	220	225	
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Tyr	Ser	Phe	Arg	Ser	Ala	Phe	Leu	Thr	Val	Leu	Pro	Asp	Pro	Lys
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Cys	Thr	Pro	Ala	Pro	Ala	Pro	Pro	Leu	Pro	Gly	His	Arg	Pro	Pro
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Gly	Ser	Pro	Ala	Ala	Pro	Gln	His	Leu	Leu	Gly	Pro	Gly	Pro	Val
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Ala	Gly	Pro	Lys	Leu	Tyr	Pro	Lys	Leu	Tyr	Thr	Asp	Ile	His	Thr
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His	Thr	His	Thr	His	Ser	His	Thr	His	Ser	His	Val	Glu	Gly	Lys
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<210> 121

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<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 121

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<210> 122

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 122

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<210> 123

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<212> DNA

<213> Homo sapiens

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Leu	Arg	Arg	Lys	Glu	Pro	Ile	Thr	Leu	Glu	Ala	Met	Glu	Thr	Asn	575	580	585
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Ser	Val	Asp	Phe	Arg	Asp	Glu	Val	Thr	Ser	Glu	Pro	Leu	Asn	Ala	665	670	675
Gly	Lys	Val	Lys	Val	His	Leu	Asp	Ser	Thr	Gln	Val	Lys	Met	Pro	680	685	690
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Ile	Arg	Glu	Arg	Arg	Leu	Phe	Asn	Leu	Asp	Val	Pro	Glu	Ser	Arg	740	745	750
Arg	Cys	Phe	Val	Lys	Val	Arg	Ala	Tyr	Arg	Ser	Glu	Arg	Phe	Leu	755	760	765
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Glu	Pro	Arg	Thr	Gly	Phe	Leu	Ser	Asn	Pro	Arg	Ala	Trp	Gly	Arg	785	790	795
Phe	Asp	Ser	Val	Ile	Thr	Gly	Pro	Asn	Gly	Ala	Cys	Val	Pro	Ala	800	805	810
Phe	Cys	Asp	Asp	Gln	Ser	Pro	Asp	Ala	Tyr	Ser	Ala	Tyr	Val	Leu	815	820	825
Ala	Ser	Leu	Ala	Gly	Glu	Glu	Leu	Gln	Ala	Val	Glu	Ser	Ser	Pro	830	835	840

Lys	Phe	Asn	Pro	Asn	Ala	Ile	Gly	Val	Pro	Gln	Pro	Tyr	Leu	Asn		845	850	855
Lys	Leu	Asn	Tyr	Arg	Arg	Thr	Asp	His	Glu	Asp	Pro	Arg	Val	Lys		860	865	870
Lys	Thr	Ala	Phe	Gln	Ile	Ser	Met	Ala	Lys	Pro	Arg	Pro	Asn	Ser		875	880	885
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 attgacatgc gaatgtgagc acaacactac aggtccagac tgtgggaaat 1250  
 gcaagaagaa ttatcagggc cgaccttggg gtccaggctc ctatctcccc 1300  
 atccccaag gactgcaaa tacctgtatc ccagtatatt ccagtattgg 1350  
 tacgaatgtc tgcgacaacg agctcctgca ctgccagaac ggagggacgt 1400  
 gccacaacaa cgtgagctgc ctgtgcccgg ccgcatacac gggcatcttc 1450  
 tgcgagaagc tgcggtgcca ggaggctggc agctgaggct ccgactctgg 1500  
 ccaggggcgc ccccgagcgc gcacccagc gctgctgctg ctgaccacgc 1550  
 tgctgggaac cggcagcccc ctggtgttct aggtgtcacc tccagccaca 1600  
 ccggaagggc ctgtgccgtg gggaagcaga cacaacccaa acatttgcta 1650  
 ctaacatagg aaacacacac atacagacac cccactcag acagtgtaca 1700  
 aactaagaag gactaactga actaagccat atttatcacc cgtggacagc 1750  
 acatccgagt caagactgtt aatttctgac tccagaggag ttggcagctg 1800  
 ttgatattat cactgcaaata cacattgcca gctgcagagc atattgtgga 1850  
 ttggaaaggc tgcgacagcc ccccaaacag gaaagacaaa aaacaaacaa 1900  
 atcaaccgac ctaaaaacat tggctactct agcgtggtgc gccctagtag 1950  
 gactccgccc agtgtgtgga ccaaccaaata agcattcttt gctgtcaggt 2000  
 gcattgtggg cataaggaaa tctgttataa gctgccatat tggcctgctt 2050

ccgtccctga atcccttcca acctgtgctt tagtgaacgt tgctctgtaa 2100  
 ccctcgttgg ttgaaagatt tctttgtctg atgttagtga tgcacatgtg 2150  
 taacagcccc ctctaaaagc gcaagccagt catacccctg tatactcttag 2200  
 cagcactgag tccagtgcga gcacacaccc actatacaag agtgggtata 2250  
 ggaaaaaaga aagtgtatct atccttttgt attcaaatga agttattttt 2300  
 cttgaactac tgtaatatgt agattttttg tattattgcc aatttgtgtt 2350  
 accagacaat ctgttaatgt atctaattcg aatcagcaaa gactgacatt 2400  
 ttattttgtc ctctttcgtt ctgttttgtt tcaactgtgca gagatttctc 2450  
 tgtaagggca acgaacgtgc tggcatcaaa gaatatcagt ttacatatat 2500  
 aacaagtgtataagattcc accaaaggac attctaaatg ttttcttgtt 2550  
 gctttaacac tggaagattt aaagaataaa aactcctgca taaacgattt 2600  
 caggaatttg tattgcaatt tcttaagatg aaaggaacag ccaccaagca 2650  
 gtttcacact cactttactg atttctgtgt ggactgagta cattcagctg 2700  
 acgaatttag ttcccaggaa gatggattga tgttcactag cttggacaac 2750  
 ttctgcaaaa tatgagacta tttccacttg ggaaaaatta caacagcaaa 2800  
 aaaaaaaaaa aaaaaaaaaa 2819

<210> 129  
 <211> 438  
 <212> PRT  
 <213> Homo sapiens

<400> 129  
 Met Tyr Leu Ser Arg Ser Leu Ser Ile His Ala Leu Trp Val Thr  
 1 5 10 15  
 Val Ser Ser Val Met Gln Pro Tyr Pro Leu Val Trp Gly His Tyr  
 20 25 30  
 Asp Leu Cys Lys Thr Gln Ile Tyr Thr Glu Glu Gly Lys Val Trp  
 35 40 45  
 Asp Tyr Met Ala Cys Gln Pro Glu Ser Thr Asp Met Thr Lys Tyr  
 50 55 60  
 Leu Lys Val Lys Leu Asp Pro Pro Asp Ile Thr Cys Gly Asp Pro  
 65 70 75  
 Pro Glu Thr Phe Cys Ala Met Gly Asn Pro Tyr Met Cys Asn Asn  
 80 85 90  
 Glu Cys Asp Ala Ser Thr Pro Glu Leu Ala His Pro Pro Glu Leu  
 95 100 105  
 Met Phe Asp Phe Glu Gly Arg His Pro Ser Thr Phe Trp Gln Ser  
 110 115 120  
 Ala Thr Trp Lys Glu Tyr Pro Lys Pro Leu Gln Val Asn Ile Thr



125	130	135	
Leu Ser Trp Ser Lys Thr Ile Glu Leu Thr Asp Asn Ile Val Ile	140	145	150
Thr Phe Glu Ser Gly Arg Pro Asp Gln Met Ile Leu Glu Lys Ser	155	160	165
Leu Asp Tyr Gly Arg Thr Trp Gln Pro Tyr Gln Tyr Tyr Ala Thr	170	175	180
Asp Cys Leu Asp Ala Phe His Met Asp Pro Lys Ser Val Lys Asp	185	190	195
Leu Ser Gln His Thr Val Leu Glu Ile Ile Cys Thr Glu Glu Tyr	200	205	210
Ser Thr Gly Tyr Thr Thr Asn Ser Lys Ile Ile His Phe Glu Ile	215	220	225
Lys Asp Arg Phe Ala Leu Phe Ala Gly Pro Arg Leu Arg Asn Met	230	235	240
Ala Ser Leu Tyr Gly Gln Leu Asp Thr Thr Lys Lys Leu Arg Asp	245	250	255
Phe Phe Thr Val Thr Asp Leu Arg Ile Arg Leu Leu Arg Pro Ala	260	265	270
Val Gly Glu Ile Phe Val Asp Glu Leu His Leu Ala Arg Tyr Phe	275	280	285
Tyr Ala Ile Ser Asp Ile Lys Val Arg Gly Arg Cys Lys Cys Asn	290	295	300
Leu His Ala Thr Val Cys Val Tyr Asp Asn Ser Lys Leu Thr Cys	305	310	315
Glu Cys Glu His Asn Thr Thr Gly Pro Asp Cys Gly Lys Cys Lys	320	325	330
Lys Asn Tyr Gln Gly Arg Pro Trp Ser Pro Gly Ser Tyr Leu Pro	335	340	345
Ile Pro Lys Gly Thr Ala Asn Thr Cys Ile Pro Ser Ile Ser Ser	350	355	360
Ile Gly Thr Asn Val Cys Asp Asn Glu Leu Leu His Cys Gln Asn	365	370	375
Gly Gly Thr Cys His Asn Asn Val Arg Cys Leu Cys Pro Ala Ala	380	385	390
Tyr Thr Gly Ile Leu Cys Glu Lys Leu Arg Cys Glu Glu Ala Gly	395	400	405
Ser Cys Gly Ser Asp Ser Gly Gln Gly Ala Pro Pro His Gly Thr	410	415	420
Pro Ala Leu Leu Leu Leu Thr Thr Leu Leu Gly Thr Ala Ser Pro	425	430	435
Leu Val Phe			

<210> 130  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 130  
 tcgattatgg acgaacatgg cagc 24

<210> 131  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 131  
 ttctgagatc cctcatcctc 20

<210> 132  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 132  
 aggttcaggg acagcaagtt tggg 24

<210> 133  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 133  
 tttgctggac ctcggtacg gaattggctt ccctctacgg acagctggat 50

<210> 134  
 <211> 1493  
 <212> DNA  
 <213> Homo sapiens

<400> 134  
 cccacgcgtc cgggtgacct gggccgagcc ctcccggctg gctaagattg 50  
 ctgaggaggc ggcgggtagc tggcaggcgc cgacttccga aggccgccgt 100  
 ccgggcgagg tgtcctcatg acttctcttg tggaccatgt ccgtgatctt 150  
 ttttgccctgc gtggtacggg taagggatgg actgccctc tcagcctcta 200  
 ctgattttta ccacacccaa gatttttttg aatggaggag acggctcaag 250  
 agtttagcct tgcgactggc ccagtatcca ggtcgagggt ctgcagaagg 300



Gln	Tyr	Pro	Gly	Arg	Gly	Ser	Ala	Glu	Gly	Cys	Asp	Phe	Ser	Ile	
				50					55					60	
His	Phe	Ser	Ser	Phe	Gly	Asp	Val	Ala	Cys	Met	Ala	Ile	Cys	Ser	
				65					70					75	
Cys	Gln	Cys	Pro	Ala	Ala	Met	Ala	Phe	Cys	Phe	Leu	Glu	Thr	Leu	
				80					85					90	
Trp	Trp	Glu	Phe	Thr	Ala	Ser	Tyr	Asp	Thr	Thr	Cys	Ile	Gly	Leu	
				95					100					105	
Ala	Ser	Arg	Pro	Tyr	Ala	Phe	Leu	Glu	Phe	Asp	Ser	Ile	Ile	Gln	
				110					115					120	
Lys	Val	Lys	Trp	His	Phe	Asn	Tyr	Val	Ser	Ser	Ser	Gln	Met	Glu	
				125					130					135	
Cys	Ser	Leu	Glu	Lys	Ile	Gln	Glu	Glu	Leu	Lys	Leu	Gln	Pro	Pro	
				140					145					150	
Ala	Val	Leu	Thr	Leu	Glu	Asp	Thr	Asp	Val	Ala	Asn	Gly	Val	Met	
				155					160					165	
Asn	Gly	His	Thr	Pro	Met	His	Leu	Glu	Pro	Ala	Pro	Asn	Phe	Arg	
				170					175					180	
Met	Glu	Pro	Val	Thr	Ala	Leu	Gly	Ile	Leu	Ser	Leu	Ile	Leu	Asn	
				185					190					195	
Ile	Met	Cys	Ala	Ala	Leu	Asn	Leu	Ile	Arg	Gly	Val	His	Leu	Ala	
				200					205					210	
Glu	His	Ser	Leu	Gln	Asp	Pro	Arg	Ser	Trp	Phe	Cys	Trp	Leu	Asp	
				215					220					225	

Gln Thr Ser

<210> 136  
 <211> 239  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 39, 61, 143, 209  
 <223> unknown base

<400> 136  
 tgcttctctgg agacctgtg gtgggaattc acagcttcnt atgacactac 50  
 ctgcattggc ntacgctcca ggccatacgc ttttcttgag tttgacagca 100  
 tcattcagaa agtgaagtgg cattttaact atgtaagttc ctntcagatg 150  
 gaggtcagct tggaaaaaat tcaggaggag ctcaagttgc agcctccagc 200  
 gggttctcant atggaggaca cagatgtggc aaatgggggt 239

<210> 137  
 <211> 2300  
 <212> DNA

<213> Homo sapiens

<400> 137

ctcagcggcg cttcctcgta gcgagcctag tggcgggtgt ttgcattgaa 50  
acgtgagcgc gacccgacct taaagagtgg ggagcaaagg gaggacagag 100  
ccctttaaaa cgaggcgggt ggtgcctgcc cctttaaggg cggggcgtcc 150  
ggacgactgt atctgagccc cagactgccc cgagtttctg tcgcaggctg 200  
cgaggaaagg cccctaggct gggctctgggt gcttggcggc ggcggcttcc 250  
tccccgctcg tcctccccgg gccagagggc acctcggctt cagtcattgt 300  
gagcagagta tggaagcacc tgactacgaa gtgctatccg tgcgagaaca 350  
gctattccac gagaggatcc gcgagtgtat tatatcaaca cttctgtttg 400  
caacactgta catcctctgc cacatcttcc tgaccgctt caagaagcct 450  
gctgagttca ccacagtgga tgatgaagat gccaccgtca acaagattgc 500  
gctcgagctg tgcaccttta ccctggcaat tgccctgggt gctgtcctgc 550  
tcctgccctt ctccatcatc agcaatgagg tgctgctctc cctgcctcgg 600  
aactactaca tccagtggct caacggctcc ctcatccatg gcctctggaa 650  
ccttggtttt ctcttcccca acctgtccct catcttctc atgccctttg 700  
catatttctt cactgagtct gagggctttg ctggctccag aaaggggtgc 750  
ctgggccggg tctatgagac agtgggtgatg ttgatgctcc tcaactctgt 800  
gggtgctagg atgggtgtgg tggcatcagc cattgtggac aagaacaagg 850  
ccaacagaga gtcactctat gacttttggg agtactatct cccctacctc 900  
tactcatgca tctccttctt tgggggtctg ctgctcctgg tgtgtactcc 950  
actgggtctc gcccgcatgt tctccgtcac tgggaagctg ctagtcaagc 1000  
ccgggctgct ggaagacctg gaggagcagc tgtactgctc agcctttgag 1050  
gaggcagccc tgaccgcgag gatctgtaat cctaacttct gctggctgcc 1100  
tttagacatg gagctgctac acagacaggt cctggctctg cagacacaga 1150  
gggtcctgct ggagaagagg cggaaggctt cagcctggca acggaacctg 1200  
ggctaccccc tggctatgct gtgcttgctg gtgctgacgg gcctgtctgt 1250  
gctcattgtg gccatccaca tcctggagct gctcatcgat gaggctgcca 1300  
tgccccgagg catgcagggt acctccttag gccaggctct cttctccaag 1350  
ctgggctcct ttggtgccgt cattcaggtt gtactcatct tttaoctaat 1400  
gggtgtcctca gttgtgggct tctatagctc tccactcttc cggagcctgc 1450  
ggcccagatg gcacgacact gccatgacgc agataattgg gaactgtgtc 1500

tgtctcctgg tcctaagctc agcacttcct gtcttctctc gaaccctggg 1550  
gctcactcgc tttagacctgc tgggtgactt tggacgcttc aactggctgg 1600  
gcaatttcta catttgtgtc ctctacaacg cagcctttgc aggcctcacc 1650  
acactctgtc tgggtgaagac cttcactgca gctgtgcggg cagagctgat 1700  
ccgggccttt gggctggaca gactgccgct gcccgctctcc ggtttccccc 1750  
agggcatctag gaagaccag caccagtgc ctccagctgg ggggtgggaag 1800  
gaaaaaactg gacactgcca tctgctgcct aggcctggag ggaagcccaa 1850  
ggctacttgg acctcaggac ctggaatctg agaggggtggg tggcagaggg 1900  
gagcagagcc atctgacta ttgcataatc tgagccagag tttgggacca 1950  
ggacctcctg cttttccata cttaactgtg gcctcagcat ggggtagggc 2000  
tgggtgactg ggtctagccc ctgatcccaa atctgtttac acatcaatct 2050  
gcctcactgc tgttctgggc catccccata gccatgttta catgatttga 2100  
tgtgcaatag ggtggggtag gggcagggaa aggactgggc cagggcaggc 2150  
tcgggagata gattgtctcc cttgcctctg gccagcaga gcctaagcac 2200  
tgtgtctatcc tggaggggct ttggaccacc tgaaagacca aggggatagg 2250  
gaggaggagg cttcagccat cagcaataaa gttgatccca gggaaaaaaa 2300

<210> 138  
<211> 489  
<212> PRT  
<213> Homo sapiens

<400> 138  
Met Glu Ala Pro Asp Tyr Glu Val Leu Ser Val Arg Glu Gln Leu  
1 5 10 15  
Phe His Glu Arg Ile Arg Glu Cys Ile Ile Ser Thr Leu Leu Phe  
20 25 30  
Ala Thr Leu Tyr Ile Leu Cys His Ile Phe Leu Thr Arg Phe Lys  
35 40 45  
Lys Pro Ala Glu Phe Thr Thr Val Asp Asp Glu Asp Ala Thr Val  
50 55 60  
Asn Lys Ile Ala Leu Glu Leu Cys Thr Phe Thr Leu Ala Ile Ala  
65 70 75  
Leu Gly Ala Val Leu Leu Leu Pro Phe Ser Ile Ile Ser Asn Glu  
80 85 90  
Val Leu Leu Ser Leu Pro Arg Asn Tyr Tyr Ile Gln Trp Leu Asn  
95 100 105  
Gly Ser Leu Ile His Gly Leu Trp Asn Leu Val Phe Leu Phe Pro  
110 115 120  
Asn Leu Ser Leu Ile Phe Leu Met Pro Phe Ala Tyr Phe Phe Thr

				125					130					135
Glu	Ser	Glu	Gly	Phe 140	Ala	Gly	Ser	Arg	Lys 145	Gly	Val	Leu	Gly	Arg 150
Val	Tyr	Glu	Thr	Val 155	Val	Met	Leu	Met	Leu 160	Leu	Thr	Leu	Leu	Val 165
Leu	Gly	Met	Val	Trp 170	Val	Ala	Ser	Ala	Ile 175	Val	Asp	Lys	Asn	Lys 180
Ala	Asn	Arg	Glu	Ser 185	Leu	Tyr	Asp	Phe	Trp 190	Glu	Tyr	Tyr	Leu	Pro 195
Tyr	Leu	Tyr	Ser	Cys 200	Ile	Ser	Phe	Leu	Gly 205	Val	Leu	Leu	Leu	Leu 210
Val	Cys	Thr	Pro	Leu 215	Gly	Leu	Ala	Arg	Met 220	Phe	Ser	Val	Thr	Gly 225
Lys	Leu	Leu	Val	Lys 230	Pro	Arg	Leu	Leu	Glu 235	Asp	Leu	Glu	Glu	Gln 240
Leu	Tyr	Cys	Ser	Ala 245	Phe	Glu	Glu	Ala	Ala 250	Leu	Thr	Arg	Arg	Ile 255
Cys	Asn	Pro	Thr	Ser 260	Cys	Trp	Leu	Pro	Leu 265	Asp	Met	Glu	Leu	Leu 270
His	Arg	Gln	Val	Leu 275	Ala	Leu	Gln	Thr	Gln 280	Arg	Val	Leu	Leu	Glu 285
Lys	Arg	Arg	Lys	Ala 290	Ser	Ala	Trp	Gln	Arg 295	Asn	Leu	Gly	Tyr	Pro 300
Leu	Ala	Met	Leu	Cys 305	Leu	Leu	Val	Leu	Thr 310	Gly	Leu	Ser	Val	Leu 315
Ile	Val	Ala	Ile	His 320	Ile	Leu	Glu	Leu	Leu 325	Ile	Asp	Glu	Ala	Ala 330
Met	Pro	Arg	Gly	Met 335	Gln	Gly	Thr	Ser	Leu 340	Gly	Gln	Val	Ser	Phe 345
Ser	Lys	Leu	Gly	Ser 350	Phe	Gly	Ala	Val	Ile 355	Gln	Val	Val	Leu	Ile 360
Phe	Tyr	Leu	Met	Val 365	Ser	Ser	Val	Val	Gly 370	Phe	Tyr	Ser	Ser	Pro 375
Leu	Phe	Arg	Ser	Leu 380	Arg	Pro	Arg	Trp	His 385	Asp	Thr	Ala	Met	Thr 390
Gln	Ile	Ile	Gly	Asn 395	Cys	Val	Cys	Leu	Leu 400	Val	Leu	Ser	Ser	Ala 405
Leu	Pro	Val	Phe	Ser 410	Arg	Thr	Leu	Gly	Leu 415	Thr	Arg	Phe	Asp	Leu 420
Leu	Gly	Asp	Phe	Gly 425	Arg	Phe	Asn	Trp	Leu 430	Gly	Asn	Phe	Tyr	Ile 435
Val	Phe	Leu	Tyr	Asn	Ala	Ala	Phe	Ala	Gly	Leu	Thr	Thr	Leu	Cys

440	445	450
Leu Val Lys Thr Phe Thr Ala Ala Val Arg Ala Glu Leu Ile Arg		
455	460	465
Ala Phe Gly Leu Asp Arg Leu Pro Leu Pro Val Ser Gly Phe Pro		
470	475	480
Gln Ala Ser Arg Lys Thr Gln His Gln		
485		

<210> 139  
 <211> 294  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 53, 57  
 <223> unknown base

<400> 139  
 ggctgccgag ggaaggcccc ttgggttggt cttggttggt tggcggcggc 50  
 ggnnttcntcc ccgctcgtcc tccccgggcc cagaggcacc tcggcttcag 100  
 tcatgctgag cagagtatgg aagcacctga ctacgaagtg ctatccgtgc 150  
 gagaacagct attccacgag aggatccgcg agtgtattat atcaaacactt 200  
 ctgtttgcaa cactgtacat cctctgccac atcttcctga ccgcttcaa 250  
 gaagcctgct gagttcacca cagtggatga tgaagatgcc accg 294

<210> 140  
 <211> 526  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 197, 349  
 <223> unknown base

<400> 140  
 gaccgacctt aaagagtggg agcaaaggga ggacagagcc ttttaaaacg 50  
 aggcgggtggt gcctgccctt taagggcggg gcgtccggac gactgtatct 100  
 gagccccaga ctgccccgag tttctgtcgc aggctgcgag gaaaggcccc 150  
 taggctgggt ctggtgcttg gcggcgcgcg cttcctcccc gttgtcntcc 200  
 ccgggccccag aggcacctcg gcttcagtca tgctgagcag agtatggaag 250  
 cacctgacta cgaagtgcta tccgtgcgag aacagctatt ccacgagagg 300  
 atccgcgagt gtattatatc aacacttctg tttgcaacac tgtacatcnt 350  
 ctgccacatc ttctgaccc gcttcaagaa gcctgctgag ttcaccacag 400  
 tggatgatga agatgccacc gtcaacaaga ttgcgctcga gctgtgcacc 450



tttacctgg caattgccct ggggtgctgtc ctgctcctgc ctttctccat 500  
catcagcaat gaggtgctgc actccc 526

<210> 141  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 141  
gactgtatct gagccccaga ctgc 24

<210> 142  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 142  
tcagcaatga ggtgctgctc 20

<210> 143  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 143  
tgaggaagat gagggacagg ttgg 24

<210> 144  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 144  
tatggaagca cctgactacg aagtgtatc cgtgcgagaa cagctattcc 50

<210> 145  
<211> 685  
<212> DNA  
<213> Homo sapiens

<400> 145  
gatgtgctcc ttggagctgg tgtgcagtgt cctgactgta agatcaagtc 50  
caaacctgtt ttggaattga ggaaacttct cttttgatct cagcccttgg 100  
tggtccaggt cttcatgtg ctgtgggtga tattactggc cctggctcct 150  
gtcagtggac agtttgcaag gacacccagg cccattatct tcctccagcc 200  
tccatggacc acagtcttcc aaggagagag agtgaccctc acttgcaagg 250

gatttcgctt ctactcacca cagaaaacaa aatggtacca tcggtacctt 300  
 gggaaagaaa tactaagaga aaccccagac aatataccttg aggttcagga 350  
 atctggagag tacagatgcc agggcccaggg ctcccctctc agtagccctg 400  
 tgcacttgga tttttcttca gagatgggat ttcctcatgc tgcccaggct 450  
 aatgttgaac tcctgggctc aagtgatctg ctcacctagg cctctcaaag 500  
 cgctgggatt acagcttcgc tgatcctgca agctccactt tctgtgtttg 550  
 aaggagactc tgtggttctg aggtgccggg caaaggcgga agtaacactg 600  
 aataatacta tttacaagaa tgataatgtc ctggcattcc ttaataaaaag 650  
 aactgacttc caaaaaaaaa aaaaaaaaaa aaaaa 685

<210> 146  
 <211> 124  
 <212> PRT  
 <213> Homo sapiens

<400> 146  
 Met Leu Leu Trp Val Ile Leu Leu Val Leu Ala Pro Val Ser Gly  
   1                  5                  10                  15  
 Gln Phe Ala Arg Thr Pro Arg Pro Ile Ile Phe Leu Gln Pro Pro  
                   20                  25                  30  
 Trp Thr Thr Val Phe Gln Gly Glu Arg Val Thr Leu Thr Cys Lys  
                   35                  40                  45  
 Gly Phe Arg Phe Tyr Ser Pro Gln Lys Thr Lys Trp Tyr His Arg  
                   50                  55                  60  
 Tyr Leu Gly Lys Glu Ile Leu Arg Glu Thr Pro Asp Asn Ile Leu  
                   65                  70                  75  
 Glu Val Gln Glu Ser Gly Glu Tyr Arg Cys Gln Ala Gln Gly Ser  
                   80                  85                  90  
 Pro Leu Ser Ser Pro Val His Leu Asp Phe Ser Ser Glu Met Gly  
                   95                  100                  105  
 Phe Pro His Ala Ala Gln Ala Asn Val Glu Leu Leu Gly Ser Ser  
                   110                  115                  120  
 Asp Leu Leu Thr

<210> 147  
 <211> 1621  
 <212> DNA  
 <213> Homo sapiens

<400> 147  
 cagaagaggg ggctagctag ctgtctctgc ggaccaggga gacccccgcg 50  
 cccccccggt gtgaggcggc ctcacagggc cgggtgggct ggcgagccga 100  
 cgcggcggcg gaggaggctg tgaggagtgt gtggaacagg acccgggaca 150



<213> Homo sapiens

<400> 148

Met	Ala	Pro	Gln	Asn	Leu	Ser	Thr	Phe	Cys	Leu	Leu	Leu	Leu	Tyr	
1				5					10					15	
Leu	Ile	Gly	Ala	Val	Ile	Ala	Gly	Arg	Asp	Phe	Tyr	Lys	Ile	Leu	
				20					25					30	
Gly	Val	Pro	Arg	Ser	Ala	Ser	Ile	Lys	Asp	Ile	Lys	Lys	Ala	Tyr	
				35					40					45	
Arg	Lys	Leu	Ala	Leu	Gln	Leu	His	Pro	Asp	Arg	Asn	Pro	Asp	Asp	
				50					55					60	
Pro	Gln	Ala	Gln	Glu	Lys	Phe	Gln	Asp	Leu	Gly	Ala	Ala	Tyr	Glu	
				65					70					75	
Val	Leu	Ser	Asp	Ser	Glu	Lys	Arg	Lys	Gln	Tyr	Asp	Thr	Tyr	Gly	
				80					85					90	
Glu	Glu	Gly	Leu	Lys	Asp	Gly	His	Gln	Ser	Ser	His	Gly	Asp	Ile	
				95					100					105	
Phe	Ser	His	Phe	Phe	Gly	Asp	Phe	Gly	Phe	Met	Phe	Gly	Gly	Thr	
				110					115					120	
Pro	Arg	Gln	Gln	Asp	Arg	Asn	Ile	Pro	Arg	Gly	Ser	Asp	Ile	Ile	
				125					130					135	
Val	Asp	Leu	Glu	Val	Thr	Leu	Glu	Glu	Val	Tyr	Ala	Gly	Asn	Phe	
				140					145					150	
Val	Glu	Val	Val	Arg	Asn	Lys	Pro	Val	Ala	Arg	Gln	Ala	Pro	Gly	
				155					160					165	
Lys	Arg	Lys	Cys	Asn	Cys	Arg	Gln	Glu	Met	Arg	Thr	Thr	Gln	Leu	
				170					175					180	
Gly	Pro	Gly	Arg	Phe	Gln	Met	Thr	Gln	Glu	Val	Val	Cys	Asp	Glu	
				185					190					195	
Cys	Pro	Asn	Val	Lys	Leu	Val	Asn	Glu	Glu	Arg	Thr	Leu	Glu	Val	
				200					205					210	
Glu	Ile	Glu	Pro	Gly	Val	Arg	Asp	Gly	Met	Glu	Tyr	Pro	Phe	Ile	
				215					220					225	
Gly	Glu	Gly	Glu	Pro	His	Val	Asp	Gly	Glu	Pro	Gly	Asp	Leu	Arg	
				230					235					240	
Phe	Arg	Ile	Lys	Val	Val	Lys	His	Pro	Ile	Phe	Glu	Arg	Arg	Gly	
				245					250					255	
Asp	Asp	Leu	Tyr	Thr	Asn	Val	Thr	Ile	Ser	Leu	Val	Glu	Ser	Leu	
				260					265					270	
Val	Gly	Phe	Glu	Met	Asp	Ile	Thr	His	Leu	Asp	Gly	His	Lys	Val	
				275					280					285	
His	Ile	Ser	Arg	Asp	Lys	Ile	Thr	Arg	Pro	Gly	Ala	Lys	Leu	Trp	
				290					295					300	

Lys	Lys	Gly	Glu	Gly	Leu	Pro	Asn	Phe	Asp	Asn	Asn	Asn	Ile	Lys
				305					310					315
Gly	Ser	Leu	Ile	Ile	Thr	Phe	Asp	Val	Asp	Phe	Pro	Lys	Glu	Gln
				320					325					330
Leu	Thr	Glu	Glu	Ala	Arg	Glu	Gly	Ile	Lys	Gln	Leu	Leu	Lys	Gln
				335					340					345
Gly	Ser	Val	Gln	Lys	Val	Tyr	Asn	Gly	Leu	Gln	Gly	Tyr		
				350					355					

<210> 149  
 <211> 509  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 34, 52, 134, 142, 155, 158, 196, 217, 228, 272, 347, 410, 445, 482  
 <223> unknown base

<400> 149  
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 gntgcgaccg aagcggcgagg cggaggaggt tttgaggatt tttggaacag 100  
 gacccggaca gaggaaccat ggttcgcgag aacntgagca cnttttgcct 150  
 gttgntgnta tacttcatcg gggcggtgat tgccggacga gatttntata 200  
 agattttggg gtgcctngaa gtgccttnta taaaggatat taaaaaggcc 250  
 tataggaaac tagccctgca gntttatccc gaccggaacc ctgatgatcc 300  
 acaagcccag gagaaattcc aggatttggg tgctgcttat gaggttntgt 350  
 cagatagtga gaaacggaaa cagtacgata attatggtga agaaggatta 400  
 aaagatggtg atcagagctc ccatggagac attttttcac acttntttgg 450  
 ggattttggt ttcattgttg gaggaacccc tngtcagcaa gacagaaata 500  
 ttccaagag 509

<210> 150  
 <211> 1532  
 <212> DNA  
 <213> Homo sapiens

<400> 150  
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 aggccctcag gtctctgcag gtgtcgtgga ggaacctagc acctgccatc 100  
 ctcttcccca atttgccact tccagcagct ttagcccatg aggaggatgt 150  
 gaccgggact gagtcaggag ccctctggaa gcatggagac tgtggtgatt 200  
 gttgccatag gtgtgctggc caccatcttt ctggcttcgt ttgcagcctt 250  
 ggtgctggtt tgcaggcagc gctactgccg gccgcgagac ctgctgcagc 300

gctatgattc taagcccatt gtggacctca ttggtgccat ggagacccag 350  
tctgagccct ctgagttaga actggacgat gtcgttatca ccaaccccca 400  
cattgaggcc attctggaga atgaagactg gatcgaagat gcctcggggtc 450  
tcatgtccca ctgcattgcc atcttgaaga tttgtcacac tctgacagag 500  
aagcttgttg ccatgacaat gggctctggg gccaatga agacttcagc 550  
cagtgtcagc gacatcattg tgggtggccaa gcggatcagc cccaggggtg 600  
atgatgttgt gaagtcgatg taccctccgt tggaccccaa actcctggac 650  
gcacggacga ctgccctgct cctgtctgtc agtcacctgg tgctggtgac 700  
aaggaatgcc tgccatctga cgggaggcct ggactggatt gaccagtctc 750  
tgtcgggtgc tgaggagcat ttggaagtcc ttcgagaagc agccctagct 800  
tctgagccag ataaaggcct cccaggccct gaaggcttcc tgcaggagca 850  
gtctgcaatt tagtgcctac aggccagcag ctagccatga aggccctgc 900  
cgccatccct ggatgggtca gcttagcctt ctactttttc ctatagagtt 950  
agttgttctc cacggctgga gagttcagct gtgtgtgcat agtaaagcag 1000  
gagatccccg tcagtttatg cctcttttgc agttgcaaac tgtggctggt 1050  
gagtggcagt ctaatactac agttagggga gatgccattc actctctgca 1100  
agaggagtat tgaaaactgg tggactgtca gctttattta gctcacctag 1150  
tgttttcaag aaaattgagc caccgtctaa gaaatcaaga ggtttcacat 1200  
taaaattaga atttctggcc tctctcgatc ggtcagaatg tgtggcaatt 1250  
ctgatctgca ttttcagaag aggacaatca attgaaacta agtaggggtt 1300  
tcttcttttg gcaagacttg tactctctca cctggcctgt ttcatttatt 1350  
tgtattatct gcctgggtccc tgaggcgtct gggctctctcc tctcccttgc 1400  
aggtttgggt ttgaagctga ggaactacaa agttgatgat ttctttttta 1450  
tctttatgcc tgcaatttta cctagctacc actaggtgga tagtaaattt 1500  
atacttatgt ttccctcaaa aaaaaaaaaa aa 1532

<210> 151

<211> 226

<212> PRT

<213> Homo sapiens

<400> 151

Met	Glu	Thr	Val	Val	Ile	Val	Ala	Ile	Gly	Val	Leu	Ala	Thr	Ile
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Phe	Leu	Ala	Ser	Phe	Ala	Ala	Leu	Val	Leu	Val	Cys	Arg	Gln	Arg
				20					25					30

Tyr	Cys	Arg	Pro	Arg	Asp	Leu	Leu	Gln	Arg	Tyr	Asp	Ser	Lys	Pro
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

	35	40	45
Ile Val Asp Leu Ile Gly Ala Met Glu Thr Gln Ser Glu Pro Ser	50	55	60
Glu Leu Glu Leu Asp Asp Val Val Ile Thr Asn Pro His Ile Glu	65	70	75
Ala Ile Leu Glu Asn Glu Asp Trp Ile Glu Asp Ala Ser Gly Leu	80	85	90
Met Ser His Cys Ile Ala Ile Leu Lys Ile Cys His Thr Leu Thr	95	100	105
Glu Lys Leu Val Ala Met Thr Met Gly Ser Gly Ala Lys Met Lys	110	115	120
Thr Ser Ala Ser Val Ser Asp Ile Ile Val Val Ala Lys Arg Ile	125	130	135
Ser Pro Arg Val Asp Asp Val Val Lys Ser Met Tyr Pro Pro Leu	140	145	150
Asp Pro Lys Leu Leu Asp Ala Arg Thr Thr Ala Leu Leu Leu Ser	155	160	165
Val Ser His Leu Val Leu Val Thr Arg Asn Ala Cys His Leu Thr	170	175	180
Gly Gly Leu Asp Trp Ile Asp Gln Ser Leu Ser Ala Ala Glu Glu	185	190	195
His Leu Glu Val Leu Arg Glu Ala Ala Leu Ala Ser Glu Pro Asp	200	205	210
Lys Gly Leu Pro Gly Pro Glu Gly Phe Leu Gln Glu Gln Ser Ala	215	220	225

Ile

<210> 152  
 <211> 1027  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 1017, 1020  
 <223> unknown base

<400> 152  
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 togcgcgtgt ccccaccact gcagccatga tctccttaac ggacacgcag 100  
 aaaattggaa tgggattaac aggatttga gtgtttttcc tgttctttgg 150  
 aatgattctc ttttttgaca aagcactact ggctattgga aatgttttat 200  
 ttgtagcogg cttggctttt gtaattgggt tagaaagaac attcagattc 250  
 ttcttccaaa aacataaaat gaaagctaca gggttttttc tgggtggtgt 300





Gln	Lys	His	Lys	Met	Lys	Ala	Thr	Gly	Phe	Phe	Leu	Gly	Gly	Val
				65					70					75
Phe	Val	Val	Leu	Ile	Gly	Trp	Pro	Leu	Ile	Gly	Met	Ile	Phe	Glu
				80					85					90
Ile	Tyr	Gly	Phe	Phe	Leu	Leu	Phe	Arg	Gly	Phe	Phe	Pro	Val	Val
				95					100					105
Val	Gly	Phe	Ile	Arg	Arg	Val	Pro	Val	Leu	Gly	Ser	Leu	Leu	Asn
				110					115					120
Leu	Pro	Gly	Ile	Arg	Ser	Phe	Val	Asp	Lys	Val	Gly	Glu	Ser	Asn
				125					130					135

Asn Met Val

<210> 154  
 <211> 405  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 66  
 <223> unknown base

<400> 154  
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 actcagcttc ccacntggg ctttccgagg tgctttcgcc gctgtcccca 100  
 ccactgcagc catgatctcc ttaacggaca cgcagaaaat tggaatggga 150  
 ttaaccggat ttggagtgtt tttcctgttc tttggaatga ttctcttttt 200  
 tgacaaagca ctactggcta ttggaaatgt tttatttgta gccggcttgg 250  
 cttttgtaat tggtttagaa agaacattca gattcttctt ccaaaaacat 300  
 aaaatgaaag ctacaggttt ttttctgggt ggtgtatttg tagtcttat 350  
 tggttggcct ttgataggca tgatcttoga aatttatgga ttttttctct 400  
 tgttc 405

<210> 155  
 <211> 1781  
 <212> DNA  
 <213> Homo sapiens

<400> 155  
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 ccatgtgcc aaggctgcc ggaaggagac gccttcctga gtcttgatc 100  
 tttcttctt ctggaaatct ttgactgtgg gtagttattt atttctgaat 150  
 aagagcgtcc acgcatcatg gacctcgcg gactgctgaa gtctcagttc 200  
 ctgtgccacc tggctcttctg ctacgtcttt attgcctcag ggctaatacat 250

caacaccatt cagctcttca ctctcctcct ctggcccatt aacaagcagc 300  
 tcttccggaa gatcaactgc agactgtcct attgcatctc aagccagctg 350  
 gtgatgctgc tggagtgggtg gtcgggcaag gaatgcacca tcttcacgga 400  
 cccgcgcgcc tacctcaagt atgggaagga aaatgccatc gtgggttctca 450  
 accacaagtt tgaaattgac tttctgtgtg gctggagcct gtccgaacgc 500  
 tttgggctgt tagggggctc caaggctcctg gccaaagaaag agctggccta 550  
 tgtcccaatt atcggctgga tgtggtactt caccgagatg gtcttctgtt 600  
 cgcgcaagtg ggagcaggat cgcaagacgg ttgccaccag tttgcagcac 650  
 ctccgggact accccgagaa gtattttttc ctgattcact gtgagggcac 700  
 acggttcacg gagaagaagc atgagatcag catgcagggtg gccggggcca 750  
 aggggctgcc tcgcctcaag catcacctgt tgccacgaac caagggttc 800  
 gccatcaccg tgaggagctt gagaaatgta gtttcagctg tatatgactg 850  
 tacactcaat ttcagaaata atgaaaatcc aacactgctg ggagtcctaa 900  
 acggaaagaa ataccatgca gatttgtatg ttaggaggat cccactggaa 950  
 gacatccctg aagacgatga cgagtgcctg gcctggctgc acaagctcta 1000  
 ccaggagaag gatgcctttc aggaggagta ctacaggacg ggcaccttcc 1050  
 cagagacgcc catggtgccc ccccgcgggc cctggaccct cgtgaactgg 1100  
 ctgttttggg cctcgtggt gctctaccct ttcttccagt tcctggtcag 1150  
 catgatcagg agcgggtctt cctgacgct ggccagcttc atcctcgtct 1200  
 tctttgtggc ctccgtggga gttcgtatga tgattggtgt gacggaaatt 1250  
 gacaagggtc ctgcctacg caactctgac agcaagcaga aactgaatga 1300  
 ctgactcagg gaggtgtcac catccgaagg gaaccttggg gaactggtgg 1350  
 cctctgcata tcctccttag tgggacacgg tgacaaaggc tgggtgagcc 1400  
 cctgctgggc acggcggaag tcacgacctc tccagccagg gagtctggtc 1450  
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 gcttttagtgg gctttggttt tctttttgtg cgagtgtgtg tgagaatggc 1550  
 tgtgtggtga gtgtgaactt tgttctgtga tcatagaaag ggtatttttag 1600  
 gctgcagggg agggcagggc tggggaccga aggggacaag ttcccccttc 1650  
 atcctttggt gctgagtttt ctgtaaccct tggttgccag agataaagtg 1700  
 aaaagtgctt taggtgagat gactaaatta tgcctccaag aaaaaaaat 1750  
 taaagtgctt ttctgggtca aaaaaaaaaa a 1781

<210> 156



290	295	300
Pro Pro Arg Arg Pro Trp Thr Leu Val Asn Trp Leu Phe Trp Ala		
305	310	315
Ser Leu Val Leu Tyr Pro Phe Phe Gln Phe Leu Val Ser Met Ile		
320	325	330
Arg Ser Gly Ser Ser Leu Thr Leu Ala Ser Phe Ile Leu Val Phe		
335	340	345
Phe Val Ala Ser Val Gly Val Arg Trp Met Ile Gly Val Thr Glu		
350	355	360
Ile Asp Lys Gly Ser Ala Tyr Gly Asn Ser Asp Ser Lys Gln Lys		
365	370	375

Leu Asn Asp

<210> 157  
 <211> 1849  
 <212> DNA  
 <213> Homo sapiens

<400> 157  
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 acggaagggtt ttcttcttgg ggaagtaaaa ggtgaagcca agaacagcat 150  
 tactgattcc caaatggatg atgttgaagt tgtttataca attgacattc 200  
 agaaatatat tccatgctat cagcttttta gcttttataa ttcttcaggc 250  
 gaagtaaatg agcaagcact gaagaaaata ttatcaaatg tcaaaaagaa 300  
 tgtggtaggt tggtaaaaat tccgtcgtca ttcagatcag atcatgacgt 350  
 ttagagagag gctgcttcac aaaaacttgc aggagcattt ttcaaaccac 400  
 gaccttggtt ttctgctatt aacaccaagt ataataacag aaagctgctc 450  
 tactcatcga ctggaacatt ccttatataa acctcaaaaa ggactttttc 500  
 acagggtacc tttagtgggt gccaatctgg gcatgtctga acaactgggt 550  
 tataaaactg tatcagggtc ctgtatgtcc actggtttta gccgagcagt 600  
 acaaacacac agctctaaat tttttgaaga agatggatcc tttaaaggag 650  
 tacataagat aaatgaaatg tatgcttcat tacaagagga attaaagagt 700  
 atatgcaaaa aagtggaaga cagtgaacaa gcagtagata aactagtaaa 750  
 ggatgtaaac agattaaaac gagaaattga gaaaaggaga ggagcacaga 800  
 ttcaggcagc aagagagaag aacatccaaa aagaccctca ggagaacatt 850  
 tttctttgtc aggcattacg gacctttttt ccaaattctg aatttcttca 900  
 ttcattgtgt atgtctttta aaaatagaca tgtttctaaa agtagctgta 950

actacaacca ccatctcgat gtagtagaca atctgacctt aatggtagaa 1000  
 cactactgaca ttcctgaagc tagtccagct agtacaccac aaatcattaa 1050  
 gcataaagcc ttagacttag atgacagatg gcaattcaag agatctcggt 1100  
 tgtagatatac acaagacaaa cgatctaaag caaatactgg tagtagtaac 1150  
 caagataaag catccaaaat gagcagccca gaaacagatg aagaaattga 1200  
 aaagatgaag ggttttggtg aatattcaag gtctcctaca ttttgatcct 1250  
 ttttaacctta caaggagatt tttttatttg gctgatgggt aaagccaaac 1300  
 atttctattg tttttactat gttgagctac ttgcagtaag ttcatttggt 1350  
 tttactatgt tcacctgttt gcagtaatac acagataact cttagtgcac 1400  
 ttacttcaca aagtactttt tcaaacatca gatgctttta tttccaaacc 1450  
 tttttttcac ctttactaa gttgttgagg ggaaggctta cacagacaca 1500  
 ttcttttagaa ttggaaaagt gagaccaggc acagtggctc acacctgtaa 1550  
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 tagagaccag cctgggcaac gtattgagac catgtctatt aaaaaataaa 1650  
 atggaaaagc aagaatagcc ttattttcaa aatatggaaa gaaatttata 1700  
 tgaaaattta tctgagtcac taaaattctc cttaagtgat acttttttag 1750  
 aagtacatta tggctagagt tgccagataa aatgctggat atcatgcaat 1800  
 aaatttgcaa aacatcatct aaaattttaa aaaaaaaaaa aaaaaaaaaa 1849

<210> 158  
 <211> 409  
 <212> PRT  
 <213> Homo sapiens

<400> 158  
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 20 25 30  
 Gly Phe Leu Leu Gly Glu Val Lys Gly Glu Ala Lys Asn Ser Ile  
 35 40 45  
 Thr Asp Ser Gln Met Asp Asp Val Glu Val Val Tyr Thr Ile Asp  
 50 55 60  
 Ile Gln Lys Tyr Ile Pro Cys Tyr Gln Leu Phe Ser Phe Tyr Asn  
 65 70 75  
 Ser Ser Gly Glu Val Asn Glu Gln Ala Leu Lys Lys Ile Leu Ser  
 80 85 90  
 Asn Val Lys Lys Asn Val Val Gly Trp Tyr Lys Phe Arg Arg His  
 95 100 105

Ser	Asp	Gln	Ile	Met	Thr	Phe	Arg	Glu	Arg	Leu	Leu	His	Lys	Asn	
				110					115					120	
Leu	Gln	Glu	His	Phe	Ser	Asn	Gln	Asp	Leu	Val	Phe	Leu	Leu	Leu	
				125					130					135	
Thr	Pro	Ser	Ile	Ile	Thr	Glu	Ser	Cys	Ser	Thr	His	Arg	Leu	Glu	
				140					145					150	
His	Ser	Leu	Tyr	Lys	Pro	Gln	Lys	Gly	Leu	Phe	His	Arg	Val	Pro	
				155					160					165	
Leu	Val	Val	Ala	Asn	Leu	Gly	Met	Ser	Glu	Gln	Leu	Gly	Tyr	Lys	
				170					175					180	
Thr	Val	Ser	Gly	Ser	Cys	Met	Ser	Thr	Gly	Phe	Ser	Arg	Ala	Val	
				185					190					195	
Gln	Thr	His	Ser	Ser	Lys	Phe	Phe	Glu	Glu	Asp	Gly	Ser	Leu	Lys	
				200					205					210	
Glu	Val	His	Lys	Ile	Asn	Glu	Met	Tyr	Ala	Ser	Leu	Gln	Glu	Glu	
				215					220					225	
Leu	Lys	Ser	Ile	Cys	Lys	Lys	Val	Glu	Asp	Ser	Glu	Gln	Ala	Val	
				230					235					240	
Asp	Lys	Leu	Val	Lys	Asp	Val	Asn	Arg	Leu	Lys	Arg	Glu	Ile	Glu	
				245					250					255	
Lys	Arg	Arg	Gly	Ala	Gln	Ile	Gln	Ala	Ala	Arg	Glu	Lys	Asn	Ile	
				260					265					270	
Gln	Lys	Asp	Pro	Gln	Glu	Asn	Ile	Phe	Leu	Cys	Gln	Ala	Leu	Arg	
				275					280					285	
Thr	Phe	Phe	Pro	Asn	Ser	Glu	Phe	Leu	His	Ser	Cys	Val	Met	Ser	
				290					295					300	
Leu	Lys	Asn	Arg	His	Val	Ser	Lys	Ser	Ser	Cys	Asn	Tyr	Asn	His	
				305					310					315	
His	Leu	Asp	Val	Val	Asp	Asn	Leu	Thr	Leu	Met	Val	Glu	His	Thr	
				320					325					330	
Asp	Ile	Pro	Glu	Ala	Ser	Pro	Ala	Ser	Thr	Pro	Gln	Ile	Ile	Lys	
				335					340					345	
His	Lys	Ala	Leu	Asp	Leu	Asp	Asp	Arg	Trp	Gln	Phe	Lys	Arg	Ser	
				350					355					360	
Arg	Leu	Leu	Asp	Thr	Gln	Asp	Lys	Arg	Ser	Lys	Ala	Asn	Thr	Gly	
				365					370					375	
Ser	Ser	Asn	Gln	Asp	Lys	Ala	Ser	Lys	Met	Ser	Ser	Pro	Glu	Thr	
				380					385					390	
Asp	Glu	Glu	Ile	Glu	Lys	Met	Lys	Gly	Phe	Gly	Glu	Tyr	Ser	Arg	
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Ser	Pro	Thr	Phe												

<210> 159  
<211> 2651  
<212> DNA  
<213> Homo sapiens

<400> 159

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cgccgcccac accctctgcg gtccccgcgg cgcttgccac ccttccctcc 150  
ttccccgcgt cccgcctcg ccggccagtc agcttgccgg gttcgctgcc 200  
ccgcgaaacc ccgaggtcac cagcccgcgc ctctgcttcc ctgggcccgcg 250  
cgccgcctcc acgccctcct tctcccctgg cccggcgctt ggcaccgggg 300  
accgttgctt gacgcgaggc ccagctctac ttttcgcccc gcgtctcctc 350  
cgctgctcg cctcttccac caactccaac tcttctccc tccagctcca 400  
ctcgctagtc cccgactccg ccagccctcg gcccgctgcc gtagcgccgc 450  
ttcccgtccg gtcccaaagg tgggaacgcg tccgccccgg ccgcacccat 500  
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ccgcgctgct ggctgccgag ctcaagtcga aaagttgctc ggaagtgcga 600  
cgtctttacg tgtccaaagg cttcaacaag aacgatgccc ccctccacga 650  
gatcaacggg gatcatttga agatctgtcc ccagggttct acctgctgct 700  
ctcaagagat ggaggagaag tacagcctgc aaagtaaaga tgatttcaaa 750  
agtgtggtca gcgaacagtg caatcatttg caagctgtct ttgcttcacg 800  
ttacaagaag tttgatgaat tcttcaaaga actacttgaa aatgcagaga 850  
aatccctgaa tgatatgttt gtgaagacat atggccatth atacatgcaa 900  
aattctgagc tatttaaaga tctcttcgta gagttgaaac gttactacgt 950  
gggtgggaaat gtgaacctgg aagaaatgct aaatgacttc tgggctogcc 1000  
tcctggagcg gatgttccgc ctggtgaact cccagtaacca ctttacagat 1050  
gagtatctgg aatgtgtgag caagtatacg gagcagctga agcccttcgg 1100  
agatgtccct cgcaaattga agctccaggt tactcgtgct tttgtagcag 1150  
cccgtacttt cgctcaaggc ttagcgggtg cgggagatgt cgtgagcaag 1200  
gtctccgtgg taaaccccac agcccagtggt acccatgccc tgttgaagat 1250  
gatctactgc tcccactgcc ggggtctcgt gactgtgaag ccatgttaca 1300  
actactgctc aaacatcatg agaggctgtt tggccaacca aggggatctc 1350  
gattttgaat ggaacaattt catagatgct atgctgatgg tggcagagag 1400  
gctagagggt cctttcaaca ttgaatcggg catggatccc atcgatgtga 1450





35					40					45				
Asp	Ala	Pro	Leu	His	Glu	Ile	Asn	Gly	Asp	His	Leu	Lys	Ile	Cys
				50					55					60
Pro	Gln	Gly	Ser	Thr	Cys	Cys	Ser	Gln	Glu	Met	Glu	Glu	Lys	Tyr
				65					70					75
Ser	Leu	Gln	Ser	Lys	Asp	Asp	Phe	Lys	Ser	Val	Val	Ser	Glu	Gln
				80					85					90
Cys	Asn	His	Leu	Gln	Ala	Val	Phe	Ala	Ser	Arg	Tyr	Lys	Lys	Phe
				95					100					105
Asp	Glu	Phe	Phe	Lys	Glu	Leu	Leu	Glu	Asn	Ala	Glu	Lys	Ser	Leu
				110					115					120
Asn	Asp	Met	Phe	Val	Lys	Thr	Tyr	Gly	His	Leu	Tyr	Met	Gln	Asn
				125					130					135
Ser	Glu	Leu	Phe	Lys	Asp	Leu	Phe	Val	Glu	Leu	Lys	Arg	Tyr	Tyr
				140					145					150
Val	Val	Gly	Asn	Val	Asn	Leu	Glu	Glu	Met	Leu	Asn	Asp	Phe	Trp
				155					160					165
Ala	Arg	Leu	Leu	Glu	Arg	Met	Phe	Arg	Leu	Val	Asn	Ser	Gln	Tyr
				170					175					180
His	Phe	Thr	Asp	Glu	Tyr	Leu	Glu	Cys	Val	Ser	Lys	Tyr	Thr	Glu
				185					190					195
Gln	Leu	Lys	Pro	Phe	Gly	Asp	Val	Pro	Arg	Lys	Leu	Lys	Leu	Gln
				200					205					210
Val	Thr	Arg	Ala	Phe	Val	Ala	Ala	Arg	Thr	Phe	Ala	Gln	Gly	Leu
				215					220					225
Ala	Val	Ala	Gly	Asp	Val	Val	Ser	Lys	Val	Ser	Val	Val	Asn	Pro
				230					235					240
Thr	Ala	Gln	Cys	Thr	His	Ala	Leu	Leu	Lys	Met	Ile	Tyr	Cys	Ser
				245					250					255
His	Cys	Arg	Gly	Leu	Val	Thr	Val	Lys	Pro	Cys	Tyr	Asn	Tyr	Cys
				260					265					270
Ser	Asn	Ile	Met	Arg	Gly	Cys	Leu	Ala	Asn	Gln	Gly	Asp	Leu	Asp
				275					280					285
Phe	Glu	Trp	Asn	Asn	Phe	Ile	Asp	Ala	Met	Leu	Met	Val	Ala	Glu
				290					295					300
Arg	Leu	Glu	Gly	Pro	Phe	Asn	Ile	Glu	Ser	Val	Met	Asp	Pro	Ile
				305					310					315
Asp	Val	Lys	Ile	Ser	Asp	Ala	Ile	Met	Asn	Met	Gln	Asp	Asn	Ser
				320					325					330
Val	Gln	Val	Ser	Gln	Lys	Val	Phe	Gln	Gly	Cys	Gly	Pro	Pro	Lys
				335					340					345
Pro	Leu	Pro	Ala	Gly	Arg	Ile	Ser	Arg	Ser	Ile	Ser	Glu	Ser	Ala

350					355					360				
Phe	Ser	Ala	Arg	Phe	Arg	Pro	His	His	Pro	Glu	Glu	Arg	Pro	Thr
				365					370					375
Thr	Ala	Ala	Gly	Thr	Ser	Leu	Asp	Arg	Leu	Val	Thr	Asp	Val	Lys
				380					385					390
Glu	Lys	Leu	Lys	Gln	Ala	Lys	Lys	Phe	Trp	Ser	Ser	Leu	Pro	Ser
				395					400					405
Asn	Val	Cys	Asn	Asp	Glu	Arg	Met	Ala	Ala	Gly	Asn	Gly	Asn	Glu
				410					415					420
Asp	Asp	Cys	Trp	Asn	Gly	Lys	Gly	Lys	Ser	Arg	Tyr	Leu	Phe	Ala
				425					430					435
Val	Thr	Gly	Asn	Gly	Leu	Ala	Asn	Gln	Gly	Asn	Asn	Pro	Glu	Val
				440					445					450
Gln	Val	Asp	Thr	Ser	Lys	Pro	Asp	Ile	Leu	Ile	Leu	Arg	Gln	Ile
				455					460					465
Met	Ala	Leu	Arg	Val	Met	Thr	Ser	Lys	Met	Lys	Asn	Ala	Tyr	Asn
				470					475					480
Gly	Asn	Asp	Val	Asp	Phe	Phe	Asp	Ile	Ser	Asp	Glu	Ser	Ser	Gly
				485					490					495
Glu	Gly	Ser	Gly	Ser	Gly	Cys	Glu	Tyr	Gln	Gln	Cys	Pro	Ser	Glu
				500					505					510
Phe	Asp	Tyr	Asn	Ala	Thr	Asp	His	Ala	Gly	Lys	Ser	Ala	Asn	Glu
				515					520					525
Lys	Ala	Asp	Ser	Ala	Gly	Val	Arg	Pro	Gly	Ala	Gln	Ala	Tyr	Leu
				530					535					540
Leu	Thr	Val	Phe	Cys	Ile	Leu	Phe	Leu	Val	Met	Gln	Arg	Glu	Trp
				545					550					555

Arg

<210> 161  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 161  
 ctccgtggta aacccacag ccc 23

<210> 162  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 162  
tcacatcgat gggatccatg accg 24

<210> 163  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 163  
ggtctcgtga ctgtgaagcc atgttacaac tactgctcaa acatcatgag 50

<210> 164  
<211> 870  
<212> DNA  
<213> Homo sapiens

<400> 164  
ctcgccctca aatgggaacg ctggcctggg actaaagcat agaccaccag 50  
gctgagtatc ctgacctgag tcatccccag ggatcaggag cctccagcag 100  
ggaaccttcc attatattct tcaagcaact tacagctgca cgcacagttg 150  
cgatgaaagt tctaattctt tccctcctcc tgttgctgcc actaatgctg 200  
atgtccatgg tctctagcag cctgaatcca ggggtcgcca gaggccacag 250  
ggaccgaggc caggcttcta ggagatggct ccaggaaggc ggccaagaat 300  
gtgagtgcaa agattggttc ctgagagccc cgagaagaaa attcatgaca 350  
gtgtctgggc tgccaaagaa gcagtgcccc tgtgatcatt tcaagggcaa 400  
tgtgaagaaa acaagacacc aaaggcacca cagaaagcca aacaagcatt 450  
ccagagcctg ccagcaattt ctcaaacaat gtcagctaag aagctttgct 500  
ctgcctttgt aggagctctg agcgcccact cttccaatta aacatttctca 550  
gccaaagaaga cagtgagcac acctaccaga cacttttctt ctcccacctc 600  
actctcccac tgtaccaccc cctaaatcat tccagtgtc tcaaaaagca 650  
tgtttttcaa gatcattttg tttgttgctc tctctagtgt cttcttctct 700  
cgtcagtctt agcctgtgcc ctccccttac ccaggcttag gcttaattac 750  
ctgaaagatt ccagaaaact gtagcttcct agctagtgtc atttaacctt 800  
aaatgcaatc aggaaagtag caaacagaag tcaataaata tttttaaatg 850  
tcaaaaaaaaa aaaaaaaaaa 870

<210> 165  
<211> 119  
<212> PRT  
<213> Homo sapiens

<400> 165  
Met Lys Val Leu Ile Ser Ser Leu Leu Leu Leu Leu Pro Leu Met

1	5	10	15
Leu Met Ser Met Val Ser Ser Ser Leu Asn Pro Gly Val Ala Arg	20	25	30
Gly His Arg Asp Arg Gly Gln Ala Ser Arg Arg Trp Leu Gln Glu	35	40	45
Gly Gly Gln Glu Cys Glu Cys Lys Asp Trp Phe Leu Arg Ala Pro	50	55	60
Arg Arg Lys Phe Met Thr Val Ser Gly Leu Pro Lys Lys Gln Cys	65	70	75
Pro Cys Asp His Phe Lys Gly Asn Val Lys Lys Thr Arg His Gln	80	85	90
Arg His His Arg Lys Pro Asn Lys His Ser Arg Ala Cys Gln Gln	95	100	105
Phe Leu Lys Gln Cys Gln Leu Arg Ser Phe Ala Leu Pro Leu	110	115	

<210> 166  
 <211> 551  
 <212> DNA  
 <213> Homo sapiens

<400> 166  
 aatggctgtc ttagtacttc gcctgacagt tgtcctggga ctgcttgtct 50  
 tattcctgac ctgctatgca gacgacaaac cagacaagcc agacgacaag 100  
 ccagacgact cgggcaaaga cccaaagcca gacttcccca aattcctaag 150  
 cctcctgggc acagagatca ttgagaatgc agtcgagttc atcctccgct 200  
 ccatgtccag gagcacagga tttatggaat ttgatgataa tgaaggaaaa 250  
 cattcatcaa agtgacatcc tcaggacaca cccatgtggc tcctggacaa 300  
 tccaagagca gccaaatcct gcttttccag tttggctcca caagtcctcc 350  
 aggacagagc cctcaaagca actcccaacg agttctcagg attcaggctc 400  
 tggcttcaac caaacagaac tcattttgaa caccctgact gcatttttgc 450  
 ttttagaaag ttagaataaa tatggcgctt tgggatcaca tagttgatgg 500  
 agaggaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 550  
 a 551

<210> 167  
 <211> 87  
 <212> PRT  
 <213> Homo sapiens

<400> 167  
 Met Ala Val Leu Val Leu Arg Leu Thr Val Val Leu Gly Leu Leu  
 1 5 10 15  
 Val Leu Phe Leu Thr Cys Tyr Ala Asp Asp Lys Pro Asp Lys Pro

	20		25		30
Asp Asp Lys Pro Asp Asp Ser Gly Lys Asp Pro Lys Pro Asp Phe					
	35		40		45
Pro Lys Phe Leu Ser Leu Leu Gly Thr Glu Ile Ile Glu Asn Ala					
	50		55		60
Val Glu Phe Ile Leu Arg Ser Met Ser Arg Ser Thr Gly Phe Met					
	65		70		75
Glu Phe Asp Asp Asn Glu Gly Lys His Ser Ser Lys					
	80		85		

<210> 168  
 <211> 1371  
 <212> DNA  
 <213> Homo sapiens

<400> 168  
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 ggaagcacag ctgagagctg gtctgccatg gacatcctgg tcccactcct 100  
 gcagctgctg gtgctgcttc ttaccctgcc cctgcacctc atggctctgc 150  
 tgggctgctg gcagcccctg tgcaaaagct acttccccta cctgatggcc 200  
 gtgctgactc ccaagagcaa ccgcaagatg gagagcaaga aacgggagct 250  
 cttcagccag ataaaggggc ttacaggagc ctccgggaaa gtggccctac 300  
 tggagctggg ctgcggaacc ggagccaact ttcagttcta cccaccgggc 350  
 tgcagggtca cctgcctaga cccaaatccc cactttgaga agttcctgac 400  
 aaagagcatg gctgagaaca ggcacctcca atatgagcgg tttgtggtgg 450  
 ctcttgagga ggacatgaga cagctggctg atggctccat ggatgtggtg 500  
 gtctgcactc tgggtgctgtg ctctgtgcag agcccaagga aggtcctgca 550  
 ggaggtccgg agagtactga gaccgggagg tgtgtctttt ttctgggagc 600  
 atgtggcaga accatatgga agctgggcct tcatgtggca gcaagttttc 650  
 gagcccacct ggaaacacat tggggatggc tgctgcctca ccagagagac 700  
 ctggaaggat cttgagaacg cccagttctc cgaaatccaa atggaacgac 750  
 agccccctcc cttgaagtgg ctacctgttg ggccccacat catgggaaag 800  
 gctgtcaaac aatctttccc aagctccaag gcactcattt gtccttccc 850  
 cagcctocaa ttagaacaag ccacccacca gcctatctat cttccactga 900  
 gagggaccta gcagaatgag agaagacatt catgtaccac ctactagtcc 950  
 ctctctcccc aacctctgcc agggcaatct ctaacttcaa tcccgccttc 1000  
 gacagtgaaa aagctctact tctacgtga cccagggagg aaacactagg 1050  
 accctgttgt atcctcaact gcaagtttct ggactagtct cccaacgttt 1100

gcctcccaat gttgtccctt tccttgcgtt ccatggtaaa gtcctctctg 1150  
ctttcctcct gaggtacac ccatgogtct ctaggaactg gtcacaaaag 1200  
tcatgggtgcc tgcattccctg ccaagcccc ctgaccctct ctccccacta 1250  
ccaccttctt cctgagctgg gggcaccagg gagaatcaga gatgctgggg 1300  
atgccagagc aagactcaaa gaggcagagg ttttgttctc aaatattttt 1350  
taataaatag acgaaaccac g 1371

<210> 169

<211> 277

<212> PRT

<213> Homo sapiens

<400> 169

Met	Asp	Ile	Leu	Val	Pro	Leu	Leu	Gln	Leu	Leu	Val	Leu	Leu	Leu	1	5	10	15
Thr	Leu	Pro	Leu	His	Leu	Met	Ala	Leu	Leu	Gly	Cys	Trp	Gln	Pro	20	25	30	
Leu	Cys	Lys	Ser	Tyr	Phe	Pro	Tyr	Leu	Met	Ala	Val	Leu	Thr	Pro	35	40	45	
Lys	Ser	Asn	Arg	Lys	Met	Glu	Ser	Lys	Lys	Arg	Glu	Leu	Phe	Ser	50	55	60	
Gln	Ile	Lys	Gly	Leu	Thr	Gly	Ala	Ser	Gly	Lys	Val	Ala	Leu	Leu	65	70	75	
Glu	Leu	Gly	Cys	Gly	Thr	Gly	Ala	Asn	Phe	Gln	Phe	Tyr	Pro	Pro	80	85	90	
Gly	Cys	Arg	Val	Thr	Cys	Leu	Asp	Pro	Asn	Pro	His	Phe	Glu	Lys	95	100	105	
Phe	Leu	Thr	Lys	Ser	Met	Ala	Glu	Asn	Arg	His	Leu	Gln	Tyr	Glu	110	115	120	
Arg	Phe	Val	Val	Ala	Pro	Gly	Glu	Asp	Met	Arg	Gln	Leu	Ala	Asp	125	130	135	
Gly	Ser	Met	Asp	Val	Val	Val	Cys	Thr	Leu	Val	Leu	Cys	Ser	Val	140	145	150	
Gln	Ser	Pro	Arg	Lys	Val	Leu	Gln	Glu	Val	Arg	Arg	Val	Leu	Arg	155	160	165	
Pro	Gly	Gly	Val	Leu	Phe	Phe	Trp	Glu	His	Val	Ala	Glu	Pro	Tyr	170	175	180	
Gly	Ser	Trp	Ala	Phe	Met	Trp	Gln	Gln	Val	Phe	Glu	Pro	Thr	Trp	185	190	195	
Lys	His	Ile	Gly	Asp	Gly	Cys	Cys	Leu	Thr	Arg	Glu	Thr	Trp	Lys	200	205	210	
Asp	Leu	Glu	Asn	Ala	Gln	Phe	Ser	Glu	Ile	Gln	Met	Glu	Arg	Gln	215	220	225	

Pro	Pro	Pro	Leu	Lys	Trp	Leu	Pro	Val	Gly	Pro	His	Ile	Met	Gly
				230					235					240
Lys	Ala	Val	Lys	Gln	Ser	Phe	Pro	Ser	Ser	Lys	Ala	Leu	Ile	Cys
				245					250					255
Ser	Phe	Pro	Ser	Leu	Gln	Leu	Glu	Gln	Ala	Thr	His	Gln	Pro	Ile
				260					265					270
Tyr	Leu	Pro	Leu	Arg	Gly	Thr								
				275										

<210> 170  
 <211> 1621  
 <212> DNA  
 <213> Homo sapiens

<400> 170  
 gtgggatttta tttgagtgc agatcgtttt ctcagtgggtg gtggaagttg 50  
 cctcatcgca ggcagatgtt ggggctttgt ccgaacagct cccctctgcc 100  
 agcttctgta gataaggggt aaaaactaat atttatatga cagaagaaaa 150  
 agatgtcatt ccgtaaagta aacatcatca tcttggtcct ggctgttgct 200  
 ctcttcttac tggttttgca ccataacttc ctcagcttga gcagtttggt 250  
 aaggaatgag gttacagatt caggaattgt agggcctcaa cctatagact 300  
 ttgtcccaaa tgctctccga catgcagtag atgggagaca agaggagatt 350  
 cctgtggtca tcgctgcac tgaagacagg cttggggggg ccattgcagc 400  
 tataaacagc attcagcaca acactcgctc caatgtgatt ttctacattg 450  
 ttactctcaa caatacagca gaccatctcc ggtcctggct caacagtgat 500  
 tcctgaaaa gcatcagata caaaattgtc aattttgacc ctaaactttt 550  
 ggaaggaaaa gttaaaggagg atcctgacca gggggaatcc atgaaacctt 600  
 taacctttgc aaggttctac ttgccaatc tggttcccag cgcaaagaag 650  
 gccatataca tggatgatga tgtaattgtg caagggtgata ttcttgccct 700  
 ttacaataca gcactgaagc caggacatgc agctgcattt tcagaagatt 750  
 gtgattcagc ctctactaaa gttgtcatcc gtggagcagg aaaccagtac 800  
 aattacattg gctatcttga ctataaaaag gaaagaattc gtaagctttc 850  
 catgaaagcc agcacttgct catttaatcc tggagttttt gttgcaaacc 900  
 tgacggaatg gaaacgacag aatataacta accaactgga aaaatggatg 950  
 aaactcaatg tagaagaggg actgtatagc agaaccctgg ctggttagcat 1000  
 cacaacacct cctctgctta tcgtatttta tcaacagcac tctaccatcg 1050  
 atcctatgtg gaatgtccgc caccttggtt ccagtgtggtg aaaacgatat 1100  
 tcacctcagt ttgtaaaggc tgccaagtta ctccattgga atggacattt 1150

gaagccatgg ggaaggactg cttcatatac tgatgtttgg gaaaaatggt 1200  
atattccaga cccaacaggc aaattcaacc taatccgaag atataccgag 1250  
atctcaaaca taaagtgaaa cagaatttga actgtaagca agcatttctc 1300  
aggaagtcct ggaagatagc atgcatggga agtaacagtt gctaggcttc 1350  
aatgcctatc ggtagcaagc catggaaaaa gatgtgtcag ctaggtaaag 1400  
atgacaaaact gccctgtctg gcagtcagct tcccagacag actatagact 1450  
ataaatatgt ctccatctgc cttaccaagt gttttcttac tacaatgctg 1500  
aatgactgga aagaagaact gatatggcta gttcagctag ctggtacaga 1550  
taattcaaaa ctgctgttgg ttttaatttt gtaacctgtg gcctgatctg 1600  
taaataaaac ttacattttt c 1621

<210> 171  
<211> 371  
<212> PRT  
<213> Homo sapiens

<400> 171  
Met Ser Phe Arg Lys Val Asn Ile Ile Ile Leu Val Leu Ala Val  
1 5 10 15  
Ala Leu Phe Leu Leu Val Leu His His Asn Phe Leu Ser Leu Ser  
20 25 30  
Ser Leu Leu Arg Asn Glu Val Thr Asp Ser Gly Ile Val Gly Pro  
35 40 45  
Gln Pro Ile Asp Phe Val Pro Asn Ala Leu Arg His Ala Val Asp  
50 55 60  
Gly Arg Gln Glu Glu Ile Pro Val Val Ile Ala Ala Ser Glu Asp  
65 70 75  
Arg Leu Gly Gly Ala Ile Ala Ala Ile Asn Ser Ile Gln His Asn  
80 85 90  
Thr Arg Ser Asn Val Ile Phe Tyr Ile Val Thr Leu Asn Asn Thr  
95 100 105  
Ala Asp His Leu Arg Ser Trp Leu Asn Ser Asp Ser Leu Lys Ser  
110 115 120  
Ile Arg Tyr Lys Ile Val Asn Phe Asp Pro Lys Leu Leu Glu Gly  
125 130 135  
Lys Val Lys Glu Asp Pro Asp Gln Gly Glu Ser Met Lys Pro Leu  
140 145 150  
Thr Phe Ala Arg Phe Tyr Leu Pro Ile Leu Val Pro Ser Ala Lys  
155 160 165  
Lys Ala Ile Tyr Met Asp Asp Asp Val Ile Val Gln Gly Asp Ile  
170 175 180  
Leu Ala Leu Tyr Asn Thr Ala Leu Lys Pro Gly His Ala Ala Ala



185					190					195				
Phe	Ser	Glu	Asp	Cys	Asp	Ser	Ala	Ser	Thr	Lys	Val	Val	Ile	Arg
				200					205					210
Gly	Ala	Gly	Asn	Gln	Tyr	Asn	Tyr	Ile	Gly	Tyr	Leu	Asp	Tyr	Lys
				215					220					225
Lys	Glu	Arg	Ile	Arg	Lys	Leu	Ser	Met	Lys	Ala	Ser	Thr	Cys	Ser
				230					235					240
Phe	Asn	Pro	Gly	Val	Phe	Val	Ala	Asn	Leu	Thr	Glu	Trp	Lys	Arg
				245					250					255
Gln	Asn	Ile	Thr	Asn	Gln	Leu	Glu	Lys	Trp	Met	Lys	Leu	Asn	Val
				260					265					270
Glu	Glu	Gly	Leu	Tyr	Ser	Arg	Thr	Leu	Ala	Gly	Ser	Ile	Thr	Thr
				275					280					285
Pro	Pro	Leu	Leu	Ile	Val	Phe	Tyr	Gln	Gln	His	Ser	Thr	Ile	Asp
				290					295					300
Pro	Met	Trp	Asn	Val	Arg	His	Leu	Gly	Ser	Ser	Ala	Gly	Lys	Arg
				305					310					315
Tyr	Ser	Pro	Gln	Phe	Val	Lys	Ala	Ala	Lys	Leu	Leu	His	Trp	Asn
				320					325					330
Gly	His	Leu	Lys	Pro	Trp	Gly	Arg	Thr	Ala	Ser	Tyr	Thr	Asp	Val
				335					340					345
Trp	Glu	Lys	Trp	Tyr	Ile	Pro	Asp	Pro	Thr	Gly	Lys	Phe	Asn	Leu
				350					355					360
Ile	Arg	Arg	Tyr	Thr	Glu	Ile	Ser	Asn	Ile	Lys				
				365					370					

<210> 172

<211> 585

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 71, 76, 86, 91, 162, 220, 269, 281

<223> unknown base

<400> 172

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aggttacaga ttcaggaatt ntaggnctc aacctntaga ntttgtccca 100

aatgttctcc gacatgcagt agatgggaga caagaggaga ttctgttggt 150

catcgctgca tntgaagaca ggcttggggg ggccattgca gctataaaca 200

gcattcagca caacactcgn tccaatgtga ttttctacat tgttactctc 250

aacaatacag cagaccatnt ccggtcctgg ntcaacagtg attccctgaa 300

aagcatcaga tacaaaattg tcaattttga ccctaaactt ttggaaggaa 350

aagtaaagga ggatcctgac cagggggaat ccatgaaacc tttaaccttt 400  
gcaaggttct acttgccaat tctggttccc agcgcaaaga aggccatata 450  
catggatgat gatgtaattg tgcaagggtga tattcttgcc ctttacaata 500  
cagcactgaa gccaggacat gcagctgcat tttcagaaga ttgtgattca 550  
gcctctacta aagttgtcat ccgtggagca ggaaa 585

<210> 173  
<211> 1866  
<212> DNA  
<213> Homo sapiens

<400> 173  
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gcggctgcc a cgagctaga gggcaagtgt gctcggccca gcgtgcaggg 100  
aacgcgggcg gccagacaac gggctgggct ccggggcctg cggcgcgggc 150  
gctgagctgg cagggcggggt cggggcgcggt gctgcatccg catctcctcc 200  
atcgctgca gtaagggcgg ccgcggcgag cctttgaggg gaacgacttg 250  
tcggagccct aaccaggggt gtctctgagc ctggtgggat ccccgagcg 300  
tcacatcact ttccgatcac ttcaaagtgg ttaaaaacta atatttatat 350  
gacagaagaa aaagatgtca ttccgtaaag taaacatcat catcttggtc 400  
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<212> DNA  
<213> Homo sapiens

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<210> 177  
 <211> 445  
 <212> PRT  
 <213> Homo sapiens

<400> 177  
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 Asp Leu Ser Ile Glu Leu Asp Thr Glu Arg Glu Asn Met Lys Cys  
 65 70 75  
 Val Leu Gly Phe Ala Ile Val Ser Thr Gly Ile Thr Ala Val Leu  
 80 85 90  
 Leu Val Leu Ile Phe Val Leu Arg Lys Arg Ile Lys Leu Thr Val

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Glu	Leu	Phe	Gln	Ile 110	Thr	Asn	Lys	Ala	Ile 115	Ser	Ser	Ala	Pro	Phe 120
Leu	Leu	Phe	Gln	Pro 125	Leu	Trp	Thr	Phe	Ala 130	Ile	Leu	Ile	Phe	Phe 135
Trp	Val	Leu	Trp	Val 140	Ala	Val	Leu	Leu	Ser 145	Leu	Gly	Thr	Ala	Gly 150
Ala	Ala	Gln	Val	Met 155	Glu	Gly	Gly	Gln	Val 160	Glu	Tyr	Lys	Pro	Leu 165
Ser	Gly	Ile	Arg	Tyr 170	Met	Trp	Ser	Tyr	His 175	Leu	Ile	Gly	Leu	Ile 180
Trp	Thr	Ser	Glu	Phe 185	Ile	Leu	Ala	Cys	Gln 190	Gln	Met	Thr	Ile	Ala 195
Gly	Ala	Val	Val	Thr 200	Cys	Tyr	Phe	Asn	Arg 205	Ser	Lys	Asn	Asp	Pro 210
Pro	Asp	His	Pro	Ile 215	Leu	Ser	Ser	Leu	Ser 220	Ile	Leu	Phe	Phe	Tyr 225
His	Gln	Gly	Thr	Val 230	Val	Lys	Gly	Ser	Phe 235	Leu	Ile	Ser	Val	Val 240
Arg	Ile	Pro	Arg	Ile 245	Ile	Val	Met	Tyr	Met 250	Gln	Asn	Ala	Leu	Lys 255
Glu	Gln	Gln	His	Gly 260	Ala	Leu	Ser	Arg	Tyr 265	Leu	Phe	Arg	Cys	Cys 270
Tyr	Cys	Cys	Phe	Trp 275	Cys	Leu	Asp	Lys	Tyr 280	Leu	Leu	His	Leu	Asn 285
Gln	Asn	Ala	Tyr	Thr 290	Thr	Thr	Ala	Ile	Asn 295	Gly	Thr	Asp	Phe	Cys 300
Thr	Ser	Ala	Lys	Asp 305	Ala	Phe	Lys	Ile	Leu 310	Ser	Lys	Asn	Ser	Ser 315
His	Phe	Thr	Ser	Ile 320	Asn	Cys	Phe	Gly	Asp 325	Phe	Ile	Ile	Phe	Leu 330
Gly	Lys	Val	Leu	Val 335	Val	Cys	Phe	Thr	Val 340	Phe	Gly	Gly	Leu	Met 345
Ala	Phe	Asn	Tyr	Asn 350	Arg	Ala	Phe	Gln	Val 355	Trp	Ala	Val	Pro	Leu 360
Leu	Leu	Val	Ala	Phe 365	Phe	Ala	Tyr	Leu	Val 370	Ala	His	Ser	Phe	Leu 375
Ser	Val	Phe	Glu	Thr 380	Val	Leu	Asp	Ala	Leu 385	Phe	Leu	Cys	Phe	Ala 390
Val	Asp	Leu	Glu	Thr 395	Asn	Asp	Gly	Ser	Ser 400	Glu	Lys	Pro	Tyr	Phe 405
Met	Asp	Gln	Glu	Phe	Leu	Ser	Phe	Val	Lys	Arg	Ser	Asn	Lys	Leu



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<211> 678  
 <212> PRT  
 <213> Homo sapiens

<400> 179

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Ala	Lys	Lys	Ile	Lys	Arg	Pro	Lys	Phe	Thr	Val	Pro	Gln	Ile	Asn	35	40	45	
Cys	Asp	Val	Lys	Ala	Gly	Lys	Ile	Ile	Asp	Pro	Glu	Phe	Ile	Val	50	55	60	
Lys	Cys	Pro	Ala	Gly	Cys	Gln	Asp	Pro	Lys	Tyr	His	Val	Tyr	Gly	65	70	75	
Thr	Asp	Val	Tyr	Ala	Ser	Tyr	Ser	Ser	Val	Cys	Gly	Ala	Ala	Val	80	85	90	
His	Ser	Gly	Val	Leu	Asp	Asn	Ser	Gly	Gly	Lys	Ile	Leu	Val	Arg	95	100	105	
Lys	Val	Ala	Gly	Gln	Ser	Gly	Tyr	Lys	Gly	Ser	Tyr	Ser	Asn	Gly	110	115	120	
Val	Gln	Ser	Leu	Ser	Leu	Pro	Arg	Trp	Arg	Glu	Ser	Phe	Ile	Val	125	130	135	
Leu	Glu	Ser	Lys	Pro	Lys	Lys	Gly	Val	Thr	Tyr	Pro	Ser	Ala	Leu	140	145	150	
Thr	Tyr	Ser	Ser	Ser	Lys	Ser	Pro	Ala	Ala	Gln	Ala	Gly	Glu	Thr	155	160	165	
Thr	Lys	Ala	Tyr	Gln	Arg	Pro	Pro	Ile	Pro	Gly	Thr	Thr	Ala	Gln	170	175	180	
Pro	Val	Thr	Leu	Met	Gln	Leu	Leu	Ala	Val	Thr	Val	Ala	Val	Ala	185	190	195	
Thr	Pro	Thr	Thr	Leu	Pro	Arg	Pro	Ser	Pro	Ser	Ala	Ala	Ser	Thr	200	205	210	
Thr	Ser	Ile	Pro	Arg	Pro	Gln	Ser	Val	Gly	His	Arg	Ser	Gln	Glu	215	220	225	
Met	Asp	Leu	Trp	Ser	Thr	Ala	Thr	Tyr	Thr	Ser	Ser	Gln	Asn	Arg	230	235	240	
Pro	Arg	Ala	Asp	Pro	Gly	Ile	Gln	Arg	Gln	Asp	Pro	Ser	Gly	Ala	245	250	255	
Ala	Phe	Gln	Lys	Pro	Val	Gly	Ala	Asp	Val	Ser	Leu	Gly	Leu	Val	260	265	270	
Pro	Lys	Glu	Glu	Leu	Ser	Thr	Gln	Ser	Leu	Glu	Pro	Val	Ser	Leu	275	280	285	
Gly	Asp	Pro	Asn	Cys	Lys	Ile	Asp	Leu	Ser	Phe	Leu	Ile	Asp	Gly				





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<211> 541  
<212> PRT  
<213> Homo sapiens

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Asp Pro Ala His Tyr Ser Phe Ser Leu Thr Leu Ile Asp Ala Leu  
35 40 45  
Asp Thr Leu Leu Ile Leu Gly Asn Val Ser Glu Phe Gln Arg Val  
50 55 60  
Val Glu Val Leu Gln Asp Ser Val Asp Phe Asp Ile Asp Val Asn  
65 70 75  
Ala Ser Val Phe Glu Thr Asn Ile Arg Val Val Gly Gly Leu Leu  
80 85 90  
Ser Ala His Leu Leu Ser Lys Lys Ala Gly Val Glu Val Glu Ala  
95 100 105  
Gly Trp Pro Cys Ser Gly Pro Leu Leu Arg Met Ala Glu Glu Ala  
110 115 120  
Ala Arg Lys Leu Leu Pro Ala Phe Gln Thr Pro Thr Gly Met Pro

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Tyr Gly Thr Val	Asn Leu Leu His Gly	Val Asn Pro Gly Glu Thr			
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Pro Val Thr Cys	Thr Ala Gly Ile Gly	Thr Phe Ile Val Glu Phe			
	155	160			165
Ala Thr Leu Ser	Ser Leu Thr Gly Asp	Pro Val Phe Glu Asp Val			
	170	175			180
Ala Arg Val Ala	Leu Met Arg Leu Trp	Glu Ser Arg Ser Asp Ile			
	185	190			195
Gly Leu Val Gly	Asn His Ile Asp Val	Leu Thr Gly Lys Trp Val			
	200	205			210
Ala Gln Asp Ala	Gly Ile Gly Ala Gly	Val Asp Ser Tyr Phe Glu			
	215	220			225
Tyr Leu Val Lys	Gly Ala Ile Leu Leu	Gln Asp Lys Lys Leu Met			
	230	235			240
Ala Met Phe Leu	Glu Tyr Asn Lys Ala	Ile Arg Asn Tyr Thr Arg			
	245	250			255
Phe Asp Asp Trp	Tyr Leu Trp Val Gln	Met Tyr Lys Gly Thr Val			
	260	265			270
Ser Met Pro Val	Phe Gln Ser Leu Glu	Ala Tyr Trp Pro Gly Leu			
	275	280			285
Gln Ser Leu Ile	Gly Asp Ile Asp Asn	Ala Met Arg Thr Phe Leu			
	290	295			300
Asn Tyr Tyr Thr	Val Trp Lys Gln Phe	Gly Gly Leu Pro Glu Phe			
	305	310			315
Tyr Asn Ile Pro	Gln Gly Tyr Thr Val	Glu Lys Arg Glu Gly Tyr			
	320	325			330
Pro Leu Arg Pro	Glu Leu Ile Glu Ser	Ala Met Tyr Leu Tyr Arg			
	335	340			345
Ala Thr Gly Asp	Pro Thr Leu Leu Glu	Leu Gly Arg Asp Ala Val			
	350	355			360
Glu Ser Ile Glu	Lys Ile Ser Lys Val	Glu Cys Gly Phe Ala Thr			
	365	370			375
Ile Lys Asp Leu	Arg Asp His Lys Leu	Asp Asn Arg Met Glu Ser			
	380	385			390
Phe Phe Leu Ala	Glu Thr Val Lys Tyr	Leu Tyr Leu Leu Phe Asp			
	395	400			405
Pro Thr Asn Phe	Ile His Asn Asn Gly	Ser Thr Phe Asp Ala Val			
	410	415			420
Ile Thr Pro Tyr	Gly Glu Cys Ile Leu	Gly Ala Gly Gly Tyr Ile			
	425	430			435
Phe Asn Thr Glu	Ala His Pro Ile Asp	Leu Ala Ala Leu His Cys			

	440		445		450
Cys Gln Arg Leu	Lys Glu Glu Gln Trp	Glu Val Glu Asp Leu	Met		
	455	460	465		
Arg Glu Phe Tyr	Ser Leu Lys Arg Ser	Arg Ser Lys Phe Gln	Lys		
	470	475	480		
Asn Thr Val Ser	Ser Gly Pro Trp Glu	Pro Pro Ala Arg Pro	Gly		
	485	490	495		
Thr Leu Phe Ser	Pro Glu Asn His Asp	Gln Ala Arg Glu Arg	Lys		
	500	505	510		
Pro Ala Lys Gln	Lys Val Pro Leu Leu	Ser Cys Pro Ser Gln	Pro		
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<210> 182  
 <211> 2056  
 <212> DNA  
 <213> Homo sapiens

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 aaaaaa 2056

<210> 183  
 <211> 311  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> Signal peptide  
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<220>  
 <221> N-glycosylation sites  
 <222> 40-43, 134-137

<223> N-glycosylation sites.

<220>

<221> Tissue factor proteins homology

<222> 92-119

<223> Tissue factor proteins homology

<220>

<221> Transmembrane domain

<222> 230-255

<223> Transmembrane domain

<220>

<221> Integrins alpha chain protein homology

<222> 232-262

<223> Integrins alpha chain protein homology

<400> 183

Met	Gln	Thr	Phe	Thr	Met	Val	Leu	Glu	Glu	Ile	Trp	Thr	Ser	Leu	
1				5					10					15	
Phe	Met	Trp	Phe	Phe	Tyr	Ala	Leu	Ile	Pro	Cys	Leu	Leu	Thr	Asp	
				20					25					30	
Glu	Val	Ala	Ile	Leu	Pro	Ala	Pro	Gln	Asn	Leu	Ser	Val	Leu	Ser	
				35					40					45	
Thr	Asn	Met	Lys	His	Leu	Leu	Met	Trp	Ser	Pro	Val	Ile	Ala	Pro	
				50					55					60	
Gly	Glu	Thr	Val	Tyr	Tyr	Ser	Val	Glu	Tyr	Gln	Gly	Glu	Tyr	Glu	
				65					70					75	
Ser	Leu	Tyr	Thr	Ser	His	Ile	Trp	Ile	Pro	Ser	Ser	Trp	Cys	Ser	
				80					85					90	
Leu	Thr	Glu	Gly	Pro	Glu	Cys	Asp	Val	Thr	Asp	Asp	Ile	Thr	Ala	
				95					100					105	
Thr	Val	Pro	Tyr	Asn	Leu	Arg	Val	Arg	Ala	Thr	Leu	Gly	Ser	Gln	
				110					115					120	
Thr	Ser	Ala	Trp	Ser	Ile	Leu	Lys	His	Pro	Phe	Asn	Arg	Asn	Ser	
				125					130					135	
Thr	Ile	Leu	Thr	Arg	Pro	Gly	Met	Glu	Ile	Thr	Lys	Asp	Gly	Phe	
				140					145					150	
His	Leu	Val	Ile	Glu	Leu	Glu	Asp	Leu	Gly	Pro	Gln	Phe	Glu	Phe	
				155					160					165	
Leu	Val	Ala	Tyr	Trp	Arg	Arg	Glu	Pro	Gly	Ala	Glu	Glu	His	Val	
				170					175					180	
Lys	Met	Val	Arg	Ser	Gly	Gly	Ile	Pro	Val	His	Leu	Glu	Thr	Met	
				185					190					195	
Glu	Pro	Gly	Ala	Ala	Tyr	Cys	Val	Lys	Ala	Gln	Thr	Phe	Val	Lys	
				200					205					210	
Ala	Ile	Gly	Arg	Tyr	Ser	Ala	Phe	Ser	Gln	Thr	Glu	Cys	Val	Glu	
				215					220					225	



Val	Gln	Gly	Glu	Ala	Ile	Pro	Leu	Val	Leu	Ala	Leu	Phe	Ala	Phe	230	235	240
Val	Gly	Phe	Met	Leu	Ile	Leu	Val	Val	Val	Pro	Leu	Phe	Val	Trp	245	250	255
Lys	Met	Gly	Arg	Leu	Leu	Gln	Tyr	Ser	Cys	Cys	Pro	Val	Val	Val	260	265	270
Leu	Pro	Asp	Thr	Leu	Lys	Ile	Thr	Asn	Ser	Pro	Gln	Lys	Leu	Ile	275	280	285
Ser	Cys	Arg	Arg	Glu	Glu	Val	Asp	Ala	Cys	Ala	Thr	Ala	Val	Met	290	295	300
Ser	Pro	Glu	Glu	Leu	Leu	Arg	Ala	Trp	Ile	Ser					305	310	

<210> 184  
 <211> 808  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 654, 711, 748  
 <223> unknown base

<400> 184  
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 agaatgcttt attttgaaa gaaacaatgt tctaggtcaa actgagtcta 200  
 ccaaatgcag actttcacia tggttctaga agaaatctgg acaagtcttt 250  
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 gcatctcttg atgtggagcc cagtgatcgc gcctggagaa acagtgtact 400  
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 cactgatgac atcacggcca ctgtgccata caacctttgt gtcagggcca 550  
 cattgggctc acagacctca gcctggagca tcctgaagca tccctttaat 600  
 agaaactcaa ccattcttac ccgacctggg atggagatca ccaaagatgg 650  
 cttncacctg gttattgagc tggaggacct ggggccccag tttgagttcc 700  
 ttgtggccta ntggaggagg ggcgaacccc ttgcggcgca aggggttngc 750  
 gaacccttg cgccgctgg ggtatctctc gagaaaagag aggccaata 800  
 tgaccac 808

<210> 185  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 185  
aggcttcgct gcgactagac ctc 23

<210> 186  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 186  
ccaggtcggg taaggatggg tgag 24

<210> 187  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 187  
tttctacgca ttgattccat gtttgtcac agatgaagtg gccattctgc 50

<210> 188  
<211> 1227  
<212> DNA  
<213> Homo sapiens

<400> 188  
cggacgcgtg ggccgccacc tccggaacaa gccatggtgg cggcgacggt 50  
ggcagcggcg tggctgctcc tgtgggctgc ggcctgcgcg cagcaggagc 100  
aggacttcta cgacttcaag gcggtcaaca tccggggcaa actggtgtcg 150  
ctggagaagt accgcggatc ggtgtccctg gtggtgaatg tggccagcga 200  
gtgcggcttc acagaccagc actaccgagc cctgcagcag ctgcagcgag 250  
acctgggccc ccaccacttt aacgtgctcg ccttcccctg caaccagttt 300  
ggccaacagg agcctgacag caacaaggag attgagagct ttgccgccg 350  
cacctacagt gtctcattcc ccatgttttag caagattgca gtcaccggta 400  
ctggtgccc aacctgccttc aagtacctgg ccagacttc tgggaaggag 450  
cccacctgga acttctggaa gtacctagta gcccagatg gaaaggtggt 500  
aggggcttgg gacccaactg tgtcagtgga ggaggtcaga cccagatca 550  
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 tcctttactc ttatgccatt ggtcccatca ttcttgtggg ggaaaaattc 750  
 tagtattttg attatttgaa tcttacagca acaaatagga actcctggcc 800  
 aatgagagct cttgaccagt gaatcaccag ccgatacgaa cgtcttgcca 850  
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 aggcatccta tgaacatttt ttgcatataa accaaaaaat aacttggtat 1050  
 caataaaaac ttgcatccaa catgaatttc cagccgatga taatccaggc 1100  
 caaaggttta gttgttgta tttcctctgt attattttct tcattacaaa 1150  
 agaaatgcaa gttcattgta acaatccaaa caatacctca cgatataaaa 1200  
 taaaaatgaa agtatcctcc tcaaaaa 1227

<210> 189  
 <211> 187  
 <212> PRT  
 <213> Homo sapiens

<400> 189  
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 Ala Ala Cys Ala Gln Gln Glu Gln Asp Phe Tyr Asp Phe Lys Ala  
 20 25 30  
 Val Asn Ile Arg Gly Lys Leu Val Ser Leu Glu Lys Tyr Arg Gly  
 35 40 45  
 Ser Val Ser Leu Val Val Asn Val Ala Ser Glu Cys Gly Phe Thr  
 50 55 60  
 Asp Gln His Tyr Arg Ala Leu Gln Gln Leu Gln Arg Asp Leu Gly  
 65 70 75  
 Pro His His Phe Asn Val Leu Ala Phe Pro Cys Asn Gln Phe Gly  
 80 85 90  
 Gln Gln Glu Pro Asp Ser Asn Lys Glu Ile Glu Ser Phe Ala Arg  
 95 100 105  
 Arg Thr Tyr Ser Val Ser Phe Pro Met Phe Ser Lys Ile Ala Val  
 110 115 120  
 Thr Gly Thr Gly Ala His Pro Ala Phe Lys Tyr Leu Ala Gln Thr  
 125 130 135  
 Ser Gly Lys Glu Pro Thr Trp Asn Phe Trp Lys Tyr Leu Val Ala  
 140 145 150  
 Pro Asp Gly Lys Val Val Gly Ala Trp Asp Pro Thr Val Ser Val

	155	160	165
Glu Glu Val Arg Pro Gln Ile Thr Ala	Leu Val Arg Lys Leu Ile		
170	175	180	
Leu Leu Lys Arg Glu Asp Leu			
185			

<210> 190  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 190  
 gcaggacttc tacgacttca aggc 24

<210> 191  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 191  
 agtctgggcc aggtacttga aggc 24

<210> 192  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 192  
 caacatccgg ggcaactgg tgtcgctgga gaagtaccgc ggatcggtgt 50

<210> 193  
 <211> 2187  
 <212> DNA  
 <213> Homo sapiens

<400> 193  
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 acgtcgggat gctgcgcctg gggaggctgt gcgccgggag ctcgggggtg 100  
 ctggggggccc gggccgccct ctctcggagt tggcaggaag ccaggttgca 150  
 ggggtgtccgc ttctcagtt ccagagaggt ggatcgcatg gtctccacgc 200  
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 acgagaggcc ttggtcgtcc tccatgaaga cgtcaggttg acctttgccc 350  
 aactcaagga ggaggtggac aaagctgctt ctggcctcct gagcattggc 400

ctctgcaaag gtgaccggct gggcatgtgg ggacctaaact cctatgcatg 450  
 ggtgctcatg cagttggcca ccgcccaggc gggcatcatt ctggtgtctg 500  
 tgaaccacagc ctaccaggct atggaactgg agtatgtcct caagaagggtg 550  
 ggctgcaagg cccttgtgtt cccaagcaa ttcaagacct agcaatacta 600  
 caacgtcctg aagcagatct gtccagaagt ggagaatgcc cagccagggg 650  
 ccttgaagag tcagaggctc ccagatctga ccacagtcac ctcggtggat 700  
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 aagggggcca ccctctcca ctacaacatt gtcaacaact ccaacatttt 900  
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 atgtgtctga tgtacgggtg caccctcatc ctggcctctc ccatcttcaa 1050  
 tggcaagaag gcaactggagg ccatcagcag agagagaggc accttctgt 1100  
 atggtacccc cacgatgttc gtggacattc tgaaccagcc agacttctcc 1150  
 agttatgaca tctcgaccat gtgtggaggt gtcattgctg ggtccoctgc 1200  
 acctccagag ttgatccgag ccatcatcaa caagataaat atgaaggacc 1250  
 tgggtggttg ttatggaacc acagagaaca gtcccgtgac attcgcgcac 1300  
 ttccctgagg aactgtgga gcagaaggca gaaagcgtgg gcagaattat 1350  
 gcctcacacg gaggcccgga tcatgaacat ggaggcaggg acgctggcaa 1400  
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 taccgccgag agctcgagga cttctttcac acacacccga aggtgcagga 1650  
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 gctttctgca aagggaagat ctctcacttc aagattccga agtacatcgt 1800  
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 aacttcgaga gcagatggaa cgacatctaa atctgtgaat aaagcagcag 1900  
 gcctgtcctg gccggttggc ttgactctct cctgtcagaa tgcaacctgg 1950  
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aatgtcaagg aattgactga acgaactaag agctcctgga tgggtccggg 2050  
aactcgcctg ggcacaaggt gccaaaaggc aggcagcctg cccaggccct 2100  
ccctcctgtc catccccccac attcccctgt ctgtccttgt gatttggcat 2150  
aaagagcttc tgttttcttt gaaaaaaaaa aaaaaaaa 2187

<210> 194  
<211> 615  
<212> PRT  
<213> Homo sapiens

<400> 194

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Gly	Ser	Ser	Gly	Val	Leu	Gly	Ala	Arg	Ala	Ala	Leu	Ser	Arg	Ser	
				20					25					30	
Trp	Gln	Glu	Ala	Arg	Leu	Gln	Gly	Val	Arg	Phe	Leu	Ser	Ser	Arg	
				35					40					45	
Glu	Val	Asp	Arg	Met	Val	Ser	Thr	Pro	Ile	Gly	Gly	Leu	Ser	Tyr	
				50					55					60	
Val	Gln	Gly	Cys	Thr	Lys	Lys	His	Leu	Asn	Ser	Lys	Thr	Val	Gly	
				65					70					75	
Gln	Cys	Leu	Glu	Thr	Thr	Ala	Gln	Arg	Val	Pro	Glu	Arg	Glu	Ala	
				80					85					90	
Leu	Val	Val	Leu	His	Glu	Asp	Val	Arg	Leu	Thr	Phe	Ala	Gln	Leu	
				95					100					105	
Lys	Glu	Glu	Val	Asp	Lys	Ala	Ala	Ser	Gly	Leu	Leu	Ser	Ile	Gly	
				110					115					120	
Leu	Cys	Lys	Gly	Asp	Arg	Leu	Gly	Met	Trp	Gly	Pro	Asn	Ser	Tyr	
				125					130					135	
Ala	Trp	Val	Leu	Met	Gln	Leu	Ala	Thr	Ala	Gln	Ala	Gly	Ile	Ile	
				140					145					150	
Leu	Val	Ser	Val	Asn	Pro	Ala	Tyr	Gln	Ala	Met	Glu	Leu	Glu	Tyr	
				155					160					165	
Val	Leu	Lys	Lys	Val	Gly	Cys	Lys	Ala	Leu	Val	Phe	Pro	Lys	Gln	
				170					175					180	
Phe	Lys	Thr	Gln	Gln	Tyr	Tyr	Asn	Val	Leu	Lys	Gln	Ile	Cys	Pro	
				185					190					195	
Glu	Val	Glu	Asn	Ala	Gln	Pro	Gly	Ala	Leu	Lys	Ser	Gln	Arg	Leu	
				200					205					210	
Pro	Asp	Leu	Thr	Thr	Val	Ile	Ser	Val	Asp	Ala	Pro	Leu	Pro	Gly	
				215					220					225	
Thr	Leu	Leu	Leu	Asp	Glu	Val	Val	Ala	Ala	Gly	Ser	Thr	Arg	Gln	
				230					235					240	
His	Leu	Asp	Gln	Leu	Gln	Tyr	Asn	Gln	Gln	Phe	Leu	Ser	Cys	His	

				245					250					255	
Asp	Pro	Ile	Asn	Ile 260	Gln	Phe	Thr	Ser	Gly 265	Thr	Thr	Gly	Ser	Pro 270	
Lys	Gly	Ala	Thr	Leu 275	Ser	His	Tyr	Asn	Ile 280	Val	Asn	Asn	Ser	Asn 285	
Ile	Leu	Gly	Glu	Arg 290	Leu	Lys	Leu	His	Glu 295	Lys	Thr	Pro	Glu	Gln 300	
Leu	Arg	Met	Ile	Leu 305	Pro	Asn	Pro	Leu	Tyr 310	His	Cys	Leu	Gly	Ser 315	
Val	Ala	Gly	Thr	Met 320	Met	Cys	Leu	Met	Tyr 325	Gly	Ala	Thr	Leu	Ile 330	
Leu	Ala	Ser	Pro	Ile 335	Phe	Asn	Gly	Lys	Lys 340	Ala	Leu	Glu	Ala	Ile 345	
Ser	Arg	Glu	Arg	Gly 350	Thr	Phe	Leu	Tyr	Gly 355	Thr	Pro	Thr	Met	Phe 360	
Val	Asp	Ile	Leu	Asn 365	Gln	Pro	Asp	Phe	Ser 370	Ser	Tyr	Asp	Ile	Ser 375	
Thr	Met	Cys	Gly	Gly 380	Val	Ile	Ala	Gly	Ser 385	Pro	Ala	Pro	Pro	Glu 390	
Leu	Ile	Arg	Ala	Ile 395	Ile	Asn	Lys	Ile	Asn 400	Met	Lys	Asp	Leu	Val 405	
Val	Ala	Tyr	Gly	Thr 410	Thr	Glu	Asn	Ser	Pro 415	Val	Thr	Phe	Ala	His 420	
Phe	Pro	Glu	Asp	Thr 425	Val	Glu	Gln	Lys	Ala 430	Glu	Ser	Val	Gly	Arg 435	
Ile	Met	Pro	His	Thr 440	Glu	Ala	Arg	Ile	Met 445	Asn	Met	Glu	Ala	Gly 450	
Thr	Leu	Ala	Lys	Leu 455	Asn	Thr	Pro	Gly	Glu 460	Leu	Cys	Ile	Arg	Gly 465	
Tyr	Cys	Val	Met	Leu 470	Gly	Tyr	Trp	Gly	Glu 475	Pro	Gln	Lys	Thr	Glu 480	
Glu	Ala	Val	Asp	Gln 485	Asp	Lys	Trp	Tyr	Trp 490	Thr	Gly	Asp	Val	Ala 495	
Thr	Met	Asn	Glu	Gln 500	Gly	Phe	Cys	Lys	Ile 505	Val	Gly	Arg	Ser	Lys 510	
Asp	Met	Ile	Ile	Arg 515	Gly	Gly	Glu	Asn	Ile 520	Tyr	Pro	Ala	Glu	Leu 525	
Glu	Asp	Phe	Phe	His 530	Thr	His	Pro	Lys	Val 535	Gln	Glu	Val	Gln	Val 540	
Val	Gly	Val	Lys	Asp 545	Asp	Arg	Met	Gly	Glu 550	Glu	Ile	Cys	Ala	Cys 555	
Ile	Arg	Leu	Lys	Asp	Gly	Glu	Glu	Thr	Thr	Val	Glu	Glu	Ile	Lys	

	560		565		570
Ala Phe Cys Lys	Gly Lys Ile Ser His	Phe Lys Ile Pro Lys	Tyr		
	575		580		585
Ile Val Phe Val	Thr Asn Tyr Pro Leu	Thr Ile Ser Gly Lys	Ile		
	590		595		600
Gln Lys Phe Lys	Leu Arg Glu Gln Met	Glu Arg His Leu Asn	Leu		
	605		610		615

<210> 195  
 <211> 642  
 <212> DNA  
 <213> Homo sapiens

<400> 195  
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 gtggcaggca caatgatgtg tctgatgtac ggtgccaccc tcatcctggc 150  
 ctctcccatc ttcaatggca agaaggcact ggaggccatc agcagagaga 200  
 gaggcacctt cctgtatggt acccccacga tgttcgtgga cattctgaac 250  
 cagccagact tctccagtta tgacatctcg accatgtgtg gaggtgtcat 300  
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 taaatatgaa ggacctggtg gttgcttatg gaaccacaga gaacagtccc 400  
 gtgacattcg cgcacttccc tgaggacact gtggagcaga aggcagaaag 450  
 cgtgggcaga attatgcctc acacggaggc gcggatcatg aacatggagg 500  
 cagggacgct ggcaaagctg aacacgcccg gggagctgtg catccgaggg 550  
 tactgctca tgctgggcta ctggggtgag cctcagaaga cagaggaagc 600  
 agtggatcag gacaagtggg attggacagg agatgtcgcc ac 642

<210> 196  
 <211> 1575  
 <212> DNA  
 <213> Homo sapiens

<400> 196  
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 gatctggact gcaggctggc tgctgctgct gctgcttcgc ggaggagcgc 100  
 aggccctgga gtgctacagc tgcgtgcaga aagcagatga cggatgctcc 150  
 ccgaacaaga tgaagacagt gaagtgcgcg ccgggctgtg acgtctgcac 200  
 cgaggccgtg ggggctgtg agaccatcca cggacaattc tcgctggcag 250  
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 cttcacgggc ttctggcggt catccagctg cagcaatgcg ctcaggatcg 350



ctgcaacgcc aagctcaacc tcacctcgcg ggcgctcgac ccggcaggtta 400  
atgagagtgc ataccgcgcc aacggcgtgg agtgctacag ctgtgtgggc 450  
ctgagccggg aggcgtgcca gggtagatcg ccgccggtcg tgagctgcta 500  
caacgccagc gatcatgtct acaagggtg cttagacggc aacgtcacct 550  
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tctccgcttg tcctcttgtg atgttaggac agagtgcagag aagtcagctg 1350  
tcacggggaa ggtgagagag aggatgctaa gcttctact cactttctcc 1400  
tagccagcct ggactttgga gcgtgggggt ggtgggacaa tggctcccca 1450  
ctctaagcac tgcctcccct actccccgca tctttgggga atcggttccc 1500  
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ccaattcgcc ctatagtgcg tcgta 1575

<210> 197

<211> 346

<212> PRT

<213> Homo sapiens

<400> 197

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Ala	Gly	Trp	Leu	Leu	Leu	Leu	Leu	Leu	Arg	Gly	Gly	Ala	Gln	Ala
			20						25					30

Leu	Glu	Cys	Tyr	Ser	Cys	Val	Gln	Lys	Ala	Asp	Asp	Gly	Cys	Ser
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

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Pro Asn Lys Met	Lys Thr Val Lys Cys Ala	Pro Gly Val Asp Val	
	50	55	60
Cys Thr Glu Ala	Val Gly Ala Val Glu Thr	Ile His Gly Gln Phe	
	65	70	75
Ser Leu Ala Val	Arg Gly Cys Gly Ser Gly	Leu Pro Gly Lys Asn	
	80	85	90
Asp Arg Gly Leu	Asp Leu His Gly Leu Leu	Ala Phe Ile Gln Leu	
	95	100	105
Gln Gln Cys Ala	Gln Asp Arg Cys Asn Ala	Lys Leu Asn Leu Thr	
	110	115	120
Ser Arg Ala Leu	Asp Pro Ala Gly Asn Glu	Ser Ala Tyr Pro Pro	
	125	130	135
Asn Gly Val Glu	Cys Tyr Ser Cys Val Gly	Leu Ser Arg Glu Ala	
	140	145	150
Cys Gln Gly Thr	Ser Pro Pro Val Val Ser	Cys Tyr Asn Ala Ser	
	155	160	165
Asp His Val Tyr	Lys Gly Cys Phe Asp Gly	Asn Val Thr Leu Thr	
	170	175	180
Ala Ala Asn Val	Thr Val Ser Leu Pro Val	Arg Gly Cys Val Gln	
	185	190	195
Asp Glu Phe Cys	Thr Arg Asp Gly Val Thr	Gly Pro Gly Phe Thr	
	200	205	210
Leu Ser Gly Ser	Cys Cys Gln Gly Ser Arg	Cys Asn Ser Asp Leu	
	215	220	225
Arg Asn Lys Thr	Tyr Phe Ser Pro Arg Ile	Pro Pro Leu Val Arg	
	230	235	240
Leu Pro Pro Pro	Glu Pro Thr Thr Val Ala	Ser Thr Thr Ser Val	
	245	250	255
Thr Thr Ser Thr	Ser Ala Pro Val Arg Pro	Thr Ser Thr Thr Lys	
	260	265	270
Pro Met Pro Ala	Pro Thr Ser Gln Thr Pro	Arg Gln Gly Val Glu	
	275	280	285
His Glu Ala Ser	Arg Asp Glu Glu Pro Arg	Leu Thr Gly Gly Ala	
	290	295	300
Ala Gly His Gln	Asp Arg Ser Asn Ser Gly	Gln Tyr Pro Ala Lys	
	305	310	315
Gly Gly Pro Gln	Gln Pro His Asn Lys Gly	Cys Val Ala Pro Thr	
	320	325	330
Ala Gly Leu Ala	Ala Leu Leu Leu Ala Val	Ala Ala Gly Val Leu	
	335	340	345

Leu

<210> 198  
<211> 1657  
<212> DNA  
<213> Homo sapiens

<400> 198  
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gtcctggcca gtgcagctga aaaggagaag gaaatggacc cttttcatta 150  
tgattaccag accctgagga ttgggggact ggtgttcgct gtggtcctct 200  
tctcgggttg gatcctcctt atcctaagtc gcaggtgcaa gtgcagtctc 250  
aatcagaagc cccgggcccc aggagatgag gaagcccagg tggagaacct 300  
catcacccgc aatgcaacag agccccagaa gcagagaact gaagtgcagc 350  
catcagggtg aagcctctgg aacctgaggc ggctgcttga acctttggat 400  
gcaaagtctg atgcttaaga aaaccggcca cttcagcaac agccctttcc 450  
ccaggagaag ccaagaactt gtgtgtcccc caccctatcc cctctaacac 500  
cattcctcca cctgatgatg caactaacac ttgcctcccc actgcagcct 550  
gcggctcctg ccacctcccg tgatgtgtgt gtgtgtgtgt gtgtgtgact 600  
gtgtgtgttt gctaaactgt gtctttgtgg ctacttgttt gtggatggta 650  
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cacatggcca tctgtcctc cctgcccccg tggccctcca tcaccttctg 750  
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ggatgcgtag ggtaagagca cgggcagtgg tcttcagtcg tcttgggacc 850  
tggaaggtt tgcagcactt tgtcatcatt cttcatggac tcctttcact 900  
cctttaacaa aaaccttgct tccttatccc acctgatccc agtctgaagg 950  
tctcttagca actggagata caaagcaagg agctggtgag cccagcgttg 1000  
acgtcaggca ggctatgcc ttccgtgggt aatttcttcc caggggcttc 1050  
cacgaggagt ccccatctgc cccgccccct cacagagcgc ccggggattc 1100  
caggcccagg gcttctactc tgccccctgg gaatgtgtcc cctgcatatc 1150  
ttctcagcaa taactccatg ggctctggga ccctaccctt tccaaccttc 1200  
cctgcttctg agacttcaat ctacagccca gctcatccag atgcagacta 1250  
cagtccctgc aattgggtct ctggcaggca atagttgaag gactcctgtt 1300  
ccgttggggc cagcacaccg ggatggatgg agggagagca gaggcctttg 1350  
cttctctgcc tacgtcccct tagatgggca gcagaggcaa ctcccgcatc 1400

ctttgctctg cctgtcgggtg gtcagagcgg tgagcgaggt gggttggaga 1450  
 ctacagcaggc tccgtgcagc ccttgggaac agtgagaggt tgaaggtcat 1500  
 aacgagagtg ggaactcaac ccagatcccg cccctcctgt cctctgtgtt 1550  
 cccgcggaaa ccaaccaaac cgtgcgctgt gacccattgc tgttctctgt 1600  
 atcgtgatct atcctcaaca acaacagaaa aaaggaataa aatatacctt 1650  
 gtttcct 1657

<210> 199  
 <211> 120  
 <212> PRT  
 <213> Homo sapiens

<400> 199  
 Met Glu Leu Val Leu Val Phe Leu Cys Ser Leu Leu Ala Pro Met  
 1 5 10 15  
 Val Leu Ala Ser Ala Ala Glu Lys Glu Lys Glu Met Asp Pro Phe  
 20 25 30  
 His Tyr Asp Tyr Gln Thr Leu Arg Ile Gly Gly Leu Val Phe Ala  
 35 40 45  
 Val Val Leu Phe Ser Val Gly Ile Leu Leu Ile Leu Ser Arg Arg  
 50 55 60  
 Cys Lys Cys Ser Phe Asn Gln Lys Pro Arg Ala Pro Gly Asp Glu  
 65 70 75  
 Glu Ala Gln Val Glu Asn Leu Ile Thr Ala Asn Ala Thr Glu Pro  
 80 85 90  
 Gln Lys Gln Arg Thr Glu Val Gln Pro Ser Gly Gly Ser Leu Trp  
 95 100 105  
 Asn Leu Arg Arg Leu Leu Glu Pro Leu Asp Ala Asn Val Asp Ala  
 110 115 120

<210> 200  
 <211> 415  
 <212> DNA  
 <213> Homo sapiens

<400> 200  
 aaacttgacg ccatgaagat cccggtcctt cctgccgtgg tgctcctctc 50  
 cctcctggtg ctccactctg cccagggagc caccctgggt ggtcctgagg 100  
 aagaaagcac cattgagaat tatgcgtcac gacccgaggc ctttaacacc 150  
 ccgttcctga acatcgacaa attgcgatct gcgtttaagg ctgatgagtt 200  
 cctgaactgg cagccctctt ttgagtctat caaaaggaaa cttcctttcc 250  
 tcaactggga tgcctttcct aagctgaaag gactgaggag cgcaactcct 300  
 gatgcccagt gaccatgacc tccactggaa gagggggcta gcgtgagcgc 350  
 tgattctcaa cctaccataa ctctttcctg cctcaggaac tccaataaaa 400

cattttccat ccaaa 415

<210> 201

<211> 99

<212> PRT

<213> Homo sapiens

<400> 201

Met Lys Ile Pro Val Leu Pro Ala Val Val Leu Leu Ser Leu Leu  
1 5 10 15  
Val Leu His Ser Ala Gln Gly Ala Thr Leu Gly Gly Pro Glu Glu  
20 25 30  
Glu Ser Thr Ile Glu Asn Tyr Ala Ser Arg Pro Glu Ala Phe Asn  
35 40 45  
Thr Pro Phe Leu Asn Ile Asp Lys Leu Arg Ser Ala Phe Lys Ala  
50 55 60  
Asp Glu Phe Leu Asn Trp His Ala Leu Phe Glu Ser Ile Lys Arg  
65 70 75  
Lys Leu Pro Phe Leu Asn Trp Asp Ala Phe Pro Lys Leu Lys Gly  
80 85 90  
Leu Arg Ser Ala Thr Pro Asp Ala Gln  
95

<210> 202

<211> 678

<212> DNA

<213> Homo sapiens

<400> 202

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ggtggagatt gcctttgcct cagtgattct cacctgcctc tcccttctgg 100  
cagcaggagt ctcccagggt gttctttctcc agccagttcc aactcaggag 150  
acaggtccca aggccatggg agatctctcc tgtggccttg ccggccactc 200  
atgagagtgt ttttgtgtaa agtatTTTTT agaatactgt tgacttcttc 250  
atgatttaat aaccatcctt tgcgaagttt tatgaggctt taggggaatg 300  
tcaaccctca aatttttgtt atactagatg gcttccattt acccaccact 350  
attttaaggt ccctttatTTT ttaggttcaa ggttcatttg acttgagaaa 400  
gtgcccttct gcagcttcat tgattttgtt tatcttcact attaattgta 450  
acgattaaaa aagaataaga gcacgcagac ctctaggaga atattttatc 500  
cctgggtgcc cctgacacat ttatgtagtg atcccacaaa tgtgattggt 550  
aatttaaagt ttatttctaatt attagtacat tcagttgtga tgtaatatga 600  
ataaccagaa tctattttctt aaaagttttg agtatatttt tcaactagat 650  
atttgatatg aaagactgaa tagtgatg 678

<210> 203  
 <211> 52  
 <212> PRT  
 <213> Homo sapiens

<400> 203  
 Met Gly Val Glu Ile Ala Phe Ala Ser Val Ile Leu Thr Cys Leu  
 1 5 10 15  
 Ser Leu Leu Ala Ala Gly Val Ser Gln Val Val Leu Leu Gln Pro  
 20 25 30  
 Val Pro Thr Gln Glu Thr Gly Pro Lys Ala Met Gly Asp Leu Ser  
 35 40 45  
 Cys Gly Phe Ala Gly His Ser  
 50

<210> 204  
 <211> 1917  
 <212> DNA  
 <213> Homo sapiens

<400> 204  
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 agaaggagtc aggttcaaaa tggaaagtat ttattgacca aattaacagg 150  
 tctttggaga attacgaacc atgttcaagt caaaactgca gctgctacca 200  
 tgggtgtcata gaagaggatc taactccttt ccgaggaggc atctccagga 250  
 agatgatggc agaggtagtc agacggaagc tagggaccca ctatcagatc 300  
 actaagaaca gactgtaccg ggaaaatgac tgcattgttc cctcaagggtg 350  
 tagtggtgtt gagcacttta ttttggaaagt gatcgggcgt ctccctgaca 400  
 tggagatggt gatcaatgta cgagattatc ctcagggttc taaatggatg 450  
 gagcctgcca tcccagtctt ctccctcagt aagacatcag agtaccatga 500  
 tatcatgtat cctgcttgga cattttggga agggggacct gctgtttggc 550  
 caatttatcc tacagggtct ggacggtggg acctcttcag agaagatctg 600  
 gtaaggtcag cagcacagtg gccatggaaa aagaaaaact ctacagcata 650  
 tttccgagga tcaaggacaa gtccagaacg agatcctctc attcttctgt 700  
 ctcggaaaaa cccaaaactt gttgatgcag aatacaccaa aaaccaggcc 750  
 tggaaatcta tgaaagatac cttaggaaaag ccagctgcta aggatgtcca 800  
 tcttggtgat cactgcaa atacaagtatct gtttaatttt cgaggcgtag 850  
 ctgcaagttt ccggttttaa cacctcttcc tgtgtggctc acttgttttc 900  
 catgttggtg atgagtggct agaattcttc tatccacagc tgaagccatg 950  
 ggttcactat atcccagtca aaacagatct ctccaatgtc caagagctgt 1000

000044 1440660

tacaatttgt aaaagcaa at gatgatgtat ctcaagagat tgctgaaagg 1050  
 ggaagccagt ttattaggaa ccatttgcag atggatgaca tcacctgtta 1100  
 ctggggagaac ctcttgagt aatactctaa attcctgtct tataatgtaa 1150  
 cgagaaggaa aggttatgat caaattattc ccaaaatggt gaaaactgaa 1200  
 ctatagtagt catcatagga ccatagtcct ctttgtggca acagatctca 1250  
 gatatactac ggtgagaagc ttaccataag cttggctcct ataccttgaa 1300  
 tatctgctat caagccaaat acctggtttt ccttatcatg ctgcacccag 1350  
 agcaactctt gagaaagatt taaaatgtgt ctaatacact gatatgaagc 1400  
 agttcaactt tttggatgaa taaggaccag aaatcgtgag atgtggattt 1450  
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 tcagatcatc cacctgtgtg agtccatcac tgtgaaattg actgtgtcca 1550  
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 gaagtagtac aactcattgc tggaaattgtg aaattattca aggcgtgatc 1650  
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 aatgatgtag gagttctctt ttgtaaaacc ataaactctg ttactcagga 1800  
 ggtttctata atgccacata gaaagaggcc aattgcatga gtaattattg 1850  
 caattggatt tcaggttccc tttttgtgcc ttcatgccct acttcttaat 1900  
 gcctctctaa agccaaa 1917

<210> 205  
 <211> 392  
 <212> PRT  
 <213> Homo sapiens

<400> 205  
 Met Glu Trp Trp Ala Ser Ser Pro Leu Arg Leu Trp Leu Leu Leu  
 1 5 10 15  
 Phe Leu Leu Pro Ser Ala Gln Gly Arg Gln Lys Glu Ser Gly Ser  
 20 25 30  
 Lys Trp Lys Val Phe Ile Asp Gln Ile Asn Arg Ser Leu Glu Asn  
 35 40 45  
 Tyr Glu Pro Cys Ser Ser Gln Asn Cys Ser Cys Tyr His Gly Val  
 50 55 60  
 Ile Glu Glu Asp Leu Thr Pro Phe Arg Gly Gly Ile Ser Arg Lys  
 65 70 75  
 Met Met Ala Glu Val Val Arg Arg Lys Leu Gly Thr His Tyr Gln  
 80 85 90  
 Ile Thr Lys Asn Arg Leu Tyr Arg Glu Asn Asp Cys Met Phe Pro

	95	100	105
Ser Arg Cys Ser	Gly Val Glu His Phe	Ile Leu Glu Val Ile	Gly
	110	115	120
Arg Leu Pro Asp	Met Glu Met Val Ile	Asn Val Arg Asp Tyr	Pro
	125	130	135
Gln Val Pro Lys	Trp Met Glu Pro Ala	Ile Pro Val Phe Ser	Phe
	140	145	150
Ser Lys Thr Ser	Glu Tyr His Asp Ile	Met Tyr Pro Ala Trp	Thr
	155	160	165
Phe Trp Glu Gly	Gly Pro Ala Val Trp	Pro Ile Tyr Pro Thr	Gly
	170	175	180
Leu Gly Arg Trp	Asp Leu Phe Arg Glu	Asp Leu Val Arg Ser	Ala
	185	190	195
Ala Gln Trp Pro	Trp Lys Lys Lys Asn	Ser Thr Ala Tyr Phe	Arg
	200	205	210
Gly Ser Arg Thr	Ser Pro Glu Arg Asp	Pro Leu Ile Leu Leu	Ser
	215	220	225
Arg Lys Asn Pro	Lys Leu Val Asp Ala	Glu Tyr Thr Lys Asn	Gln
	230	235	240
Ala Trp Lys Ser	Met Lys Asp Thr Leu	Gly Lys Pro Ala Ala	Lys
	245	250	255
Asp Val His Leu	Val Asp His Cys Lys	Tyr Lys Tyr Leu Phe	Asn
	260	265	270
Phe Arg Gly Val	Ala Ala Ser Phe Arg	Phe Lys His Leu Phe	Leu
	275	280	285
Cys Gly Ser Leu	Val Phe His Val Gly	Asp Glu Trp Leu Glu	Phe
	290	295	300
Phe Tyr Pro Gln	Leu Lys Pro Trp Val	His Tyr Ile Pro Val	Lys
	305	310	315
Thr Asp Leu Ser	Asn Val Gln Glu Leu	Leu Gln Phe Val Lys	Ala
	320	325	330
Asn Asp Asp Val	Ala Gln Glu Ile Ala	Glu Arg Gly Ser Gln	Phe
	335	340	345
Ile Arg Asn His	Leu Gln Met Asp Asp	Ile Thr Cys Tyr Trp	Glu
	350	355	360
Asn Leu Leu Ser	Glu Tyr Ser Lys Phe	Leu Ser Tyr Asn Val	Thr
	365	370	375
Arg Arg Lys Gly	Tyr Asp Gln Ile Ile	Pro Lys Met Leu Lys	Thr
	380	385	390
Glu Leu			

<210> 206



<211> 1425  
<212> DNA  
<213> Homo sapiens

<400> 206

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tttacctccc ttcggccact tcttgaggag atcccgagat ctggtggtcc 150  
ggatgcccgc cagggatggc tggctgccct gcaggaccgc agcatccttg 200  
ccccctggc atgggatctg gggtcctgc ttctatttgt tgggcagcac 250  
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ggtccttcag aggtcactgt atgtggcctg cactgccctg gccttgacgc 350  
tggtgatgcg gtactgggag ccataccca aaggccctgt gttgtgggag 400  
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ctaccctggg cacggaccgt ctctccttg ctttctcct taccctctac 700  
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cagagtgagg agctcactct gggtacaagc cctgttcttc ctctcccact 850  
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caaatccatg gactgaagga gatgcccctt ctactacttg agactttatt 950  
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caaggtccac ttctcaccag caaggaagag tggggtatgg aagtcactctg 1050  
tcccttact gttagagca tgacactctc cccctcaaca gcctcctgag 1100  
aaggaaagga tctgccctga ccaactccct ggcactgtta cttgcctctg 1150  
cgctcaggg gtccccttct gcaccgctgg cttccactcc aagaagggtg 1200  
accagggtct gcaagttcaa cggctatagc tgtccctcca ggccccaacc 1250  
ttgcctcacc actcccggcc ctagtctctg cacctcctta ggccctgcct 1300  
ctgggctcag accccaacct agtcaagggg attctcctgc tcttaactcg 1350  
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aaagtcagcc tttttctaaa aaaaa 1425

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<210> 207  
 <211> 262  
 <212> PRT  
 <213> Homo sapiens

<400> 207

Met	Ala	Pro	Ala	Leu	Leu	Leu	Ile	Pro	Ala	Ala	Leu	Ala	Ser	Phe
1				5					10					15
Ile	Leu	Ala	Phe	Gly	Thr	Gly	Val	Glu	Phe	Val	Arg	Phe	Thr	Ser
				20					25					30
Leu	Arg	Pro	Leu	Leu	Gly	Gly	Ile	Pro	Glu	Ser	Gly	Gly	Pro	Asp
				35					40					45
Ala	Arg	Gln	Gly	Trp	Leu	Ala	Ala	Leu	Gln	Asp	Arg	Ser	Ile	Leu
				50					55					60
Ala	Pro	Leu	Ala	Trp	Asp	Leu	Gly	Leu	Leu	Leu	Phe	Val	Gly	
				65					70					75
Gln	His	Ser	Leu	Met	Ala	Ala	Glu	Arg	Val	Lys	Ala	Trp	Thr	Ser
				80					85					90
Arg	Tyr	Phe	Gly	Val	Leu	Gln	Arg	Ser	Leu	Tyr	Val	Ala	Cys	Thr
				95					100					105
Ala	Leu	Ala	Leu	Gln	Leu	Val	Met	Arg	Tyr	Trp	Glu	Pro	Ile	Pro
				110					115					120
Lys	Gly	Pro	Val	Leu	Trp	Glu	Ala	Arg	Ala	Glu	Pro	Trp	Ala	Thr
				125					130					135
Trp	Val	Pro	Leu	Leu	Cys	Phe	Val	Leu	His	Val	Ile	Ser	Trp	Leu
				140					145					150
Leu	Ile	Phe	Ser	Ile	Leu	Leu	Val	Phe	Asp	Tyr	Ala	Glu	Leu	Met
				155					160					165
Gly	Leu	Lys	Gln	Val	Tyr	Tyr	His	Val	Leu	Gly	Leu	Gly	Glu	Pro
				170					175					180
Leu	Ala	Leu	Lys	Ser	Pro	Arg	Ala	Leu	Arg	Leu	Phe	Ser	His	Leu
				185					190					195
Arg	His	Pro	Val	Cys	Val	Glu	Leu	Leu	Thr	Val	Leu	Trp	Val	Val
				200					205					210
Pro	Thr	Leu	Gly	Thr	Asp	Arg	Leu	Leu	Leu	Ala	Phe	Leu	Leu	Thr
				215					220					225
Leu	Tyr	Leu	Gly	Leu	Ala	His	Gly	Leu	Asp	Gln	Gln	Asp	Leu	Arg
				230					235					240
Tyr	Leu	Arg	Ala	Gln	Leu	Gln	Arg	Lys	Leu	His	Leu	Leu	Ser	Arg
				245					250					255
Pro	Gln	Asp	Gly	Glu	Ala	Glu								
				260										

<210> 208  
 <211> 2095  
 <212> DNA

<213> Homo sapiens

<400> 208

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gtagttcaca acagatctga gtgttttaat taagcatgga atacagaaaa 150  
caacaaaaaa cttaagcttt aatttcatct ggaattccac agttttctta 200  
gtccctgga cccggttgac ctgttggtc ttcccgctgg ctgctctatc 250  
acgtgggtgct ctccgactac tcaccccgag tgtaaagaac cttcggctcg 300  
cgtgcttctg agctgctgtg gatggcctcg gctctctgga ctgtccttcc 350  
gagtaggatg tcaactgagat ccctcaaagt gagcctcctg ctgctgtcac 400  
tcctgagttt ctttgtgatg tggtaacctca gccttcccca ctacaatgtg 450  
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acaagacttt cacttcacac ttcgagagca ttcaaactgc tctcatcaaa 550  
atccatttct ggtcattctg gtgacctccc acccttcaga tgtgaaagcc 600  
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tgaggttctt acatttttct tattaggcca agaggctgaa aaggaagaca 700  
aaatgttggc attgtcctta gaggatgaac accttcttta tggtagacata 750  
atccgacaag attttttaga cacatataat aacctgacct tgaaaaccat 800  
tatggcattc aggtgggtaa ctgagttttg cccaatgoc aagtacgtaa 850  
tgaagacaga cactgatgtt ttcacataa ctggcaattt agtgaagtat 900  
cttttaaacc taaaccactc agagaagttt ttcacagggt atcctctaata 950  
tgataattat tcctatagag gattttacca aaaaacccat atttcttacc 1000  
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aaaacccatc aagtttgaag atgtttatgt cgggatctgt ttgaatttat 1150  
taaaagtga cttcatatt ccagaagaca caaatctttt ctttctatat 1200  
agaatccatt tggatgtctg tcaactgaga cgtgtgattg cagcccatgg 1250  
cttttcttcc aaggagatca tcactttttg gcaggatcatg ctaaggaaca 1300  
ccacatgcca ttattaactt cacattctac aaaaagccta gaaggacagg 1350  
ataccttggt gaaagtgtta aataaagtag gtactgtgga aaattcatgg 1400  
ggaggtcagt gtgctggctt acactgaact gaaactcatg aaaaaccag 1450  
actggagact ggaggggttac acttgtgatt tattagtcag gcccttcaaa 1500

gatgatatgt ggaggaatta aatataaagg aattggaggt ttttgctaaa 1550  
gaaattaata ggaccaaaca atttggacat gtcattctgt agactagaat 1600  
ttcttaaaag ggtgttactg agttataagc tcactaggct gtaaaaacaa 1650  
aacaatgtag agttttatatt attgaacaat gtagtcactt gaaggttttg 1700  
tgtatatctt atgtggatta ccaatttaaa aatatatgta gttctgtgtc 1750  
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gtcatttata aagtacttca agatgttgca gtatttcaca gttattatta 1850  
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caagataaaa aggatagtga atcattcttt acatgcaaac attttccagt 1950  
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<210> 209  
<211> 331  
<212> PRT  
<213> Homo sapiens

<400> 209  
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Arg Ser Leu Lys Trp Ser Leu Leu Leu Leu Ser Leu Leu Ser Phe  
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Phe Val Met Trp Tyr Leu Ser Leu Pro His Tyr Asn Val Ile Glu  
35 40 45  
Arg Val Asn Trp Met Tyr Phe Tyr Glu Tyr Glu Pro Ile Tyr Arg  
50 55 60  
Gln Asp Phe His Phe Thr Leu Arg Glu His Ser Asn Cys Ser His  
65 70 75  
Gln Asn Pro Phe Leu Val Ile Leu Val Thr Ser His Pro Ser Asp  
80 85 90  
Val Lys Ala Arg Gln Ala Ile Arg Val Thr Trp Gly Glu Lys Lys  
95 100 105  
Ser Trp Trp Gly Tyr Glu Val Leu Thr Phe Phe Leu Leu Gly Gln  
110 115 120  
Glu Ala Glu Lys Glu Asp Lys Met Leu Ala Leu Ser Leu Glu Asp  
125 130 135  
Glu His Leu Leu Tyr Gly Asp Ile Ile Arg Gln Asp Phe Leu Asp  
140 145 150  
Thr Tyr Asn Asn Leu Thr Leu Lys Thr Ile Met Ala Phe Arg Trp  
155 160 165

Val	Thr	Glu	Phe	Cys	Pro	Asn	Ala	Lys	Tyr	Val	Met	Lys	Thr	Asp
				170					175					180
Thr	Asp	Val	Phe	Ile	Asn	Thr	Gly	Asn	Leu	Val	Lys	Tyr	Leu	Leu
				185					190					195
Asn	Leu	Asn	His	Ser	Glu	Lys	Phe	Phe	Thr	Gly	Tyr	Pro	Leu	Ile
				200					205					210
Asp	Asn	Tyr	Ser	Tyr	Arg	Gly	Phe	Tyr	Gln	Lys	Thr	His	Ile	Ser
				215					220					225
Tyr	Gln	Glu	Tyr	Pro	Phe	Lys	Val	Phe	Pro	Pro	Tyr	Cys	Ser	Gly
				230					235					240
Leu	Gly	Tyr	Ile	Met	Ser	Arg	Asp	Leu	Val	Pro	Arg	Ile	Tyr	Glu
				245					250					255
Met	Met	Gly	His	Val	Lys	Pro	Ile	Lys	Phe	Glu	Asp	Val	Tyr	Val
				260					265					270
Gly	Ile	Cys	Leu	Asn	Leu	Leu	Lys	Val	Asn	Ile	His	Ile	Pro	Glu
				275					280					285
Asp	Thr	Asn	Leu	Phe	Phe	Leu	Tyr	Arg	Ile	His	Leu	Asp	Val	Cys
				290					295					300
Gln	Leu	Arg	Arg	Val	Ile	Ala	Ala	His	Gly	Phe	Ser	Ser	Lys	Glu
				305					310					315
Ile	Ile	Thr	Phe	Trp	Gln	Val	Met	Leu	Arg	Asn	Thr	Thr	Cys	His
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Tyr

<210> 210  
 <211> 745  
 <212> DNA  
 <213> Homo sapiens

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 caacgtcaat gatgacaaca acaatgctgg aagtgggcag cagtcagtga 150  
 gtgtcaacaa tgaacacaat gtggccaatg ttgacaataa caacggatgg 200  
 gactcctgga attccatctg ggattatgga aatggctttg ctgcaaccag 250  
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 tgccctccat tcaatccctt gatgcaactg tcaaggaaaa gaagcttcag 350  
 ggtaagggac caggaggacc acctccaag ggctgatgt actcagtcaa 400  
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<210> 211  
<211> 185  
<212> PRT  
<213> Homo sapiens

<400> 211  
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Asn Asn Ala Gly Ser Gly Gln Gln Ser Val Ser Val Asn Asn Glu  
35 40 45  
His Asn Val Ala Asn Val Asp Asn Asn Asn Gly Trp Asp Ser Trp  
50 55 60  
Asn Ser Ile Trp Asp Tyr Gly Asn Gly Phe Ala Ala Thr Arg Leu  
65 70 75  
Phe Gln Lys Lys Thr Cys Ile Val His Lys Met Asn Lys Glu Val  
80 85 90  
Met Pro Ser Ile Gln Ser Leu Asp Ala Leu Val Lys Glu Lys Lys  
95 100 105  
Leu Gln Gly Lys Gly Pro Gly Gly Pro Pro Pro Lys Gly Leu Met  
110 115 120  
Tyr Ser Val Asn Pro Asn Lys Val Asp Asp Leu Ser Lys Phe Gly  
125 130 135  
Lys Asn Ile Ala Asn Met Cys Arg Gly Ile Pro Thr Tyr Met Ala  
140 145 150  
Glu Glu Met Gln Glu Ala Ser Leu Phe Phe Tyr Ser Gly Thr Cys  
155 160 165  
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170 175 180  
Asp Thr Val Glu Asn  
185

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<211> 1706  
<212> DNA  
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 ccaaattaaa agcaaagggg ttgaatccgg atggaactcc agccctttca 650  
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 aagaacctga ggatagacaa caggcttcca aaagccctta caatggtgta 800  
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aaaagt 1706

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<211> 299  
<212> PRT  
<213> Homo sapiens

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20 25 30  
Gln Ile Pro Leu Pro Thr Arg Pro His Trp Phe Leu Leu Phe Gly  
35 40 45  
Thr Thr Glu Glu Glu Ile Gln Glu Ile Cys Ile Glu Thr Leu Arg  
50 55 60  
Leu Tyr Thr Arg Lys Lys Pro Asn Tyr Glu Leu Leu Glu Lys Glu  
65 70 75  
Val Glu Lys Arg Lys Val Ala Leu Gln Glu Ala Lys Leu Lys Ala  
80 85 90  
Lys Gly Leu Asn Pro Asp Gly Thr Pro Ala Leu Ser Thr Leu Gly  
95 100 105  
Gly Phe Ser Pro Ala Ser Lys Pro Ser Ser Pro Arg Glu Val Lys  
110 115 120  
Ala Glu Glu Lys Ser Pro Ile Ser Ile Asn Val Lys Thr Val Lys  
125 130 135  
Lys Glu Pro Glu Asp Arg Gln Gln Ala Ser Lys Ser Pro Tyr Asn  
140 145 150  
Gly Val Arg Lys Asp Ser Lys Arg Ser Arg Asn Ser Arg Ser Ala  
155 160 165  
Ser Arg Ser Arg Ser Arg Thr Arg Ser Arg Ser Arg Ser His Thr  
170 175 180  
Pro Arg Arg His Tyr Asn Asn Arg Arg Ser Arg Ser Gly Thr Tyr  
185 190 195  
Ser Ser Arg Ser Arg Ser Arg Ser Arg Ser His Ser Glu Ser Pro  
200 205 210  
Arg Arg His His Asn His Gly Ser Pro His Leu Lys Ala Lys His  
215 220 225  
Thr Arg Asp Asp Leu Lys Ser Ser Asn Arg His Gly His Lys Arg  
230 235 240  
Lys Lys Ser Arg Ser Arg Ser Gln Ser Lys Ser Arg Asp His Ser  
245 250 255  
Asp Ala Ala Lys Lys His Arg His Glu Arg Gly His His Arg Asp  
260 265 270  
Arg Arg Glu Arg Ser Arg Ser Phe Glu Arg Ser His Lys Ser Lys



275

280

285

His His Gly Gly Ser Arg Ser Gly His Gly Arg His Arg Arg  
290 295

<210> 214  
<211> 730  
<212> DNA  
<213> Homo sapiens

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<221> unsure  
<222> 72-73, 85, 91, 127, 226, 268, 454, 484, 513, 566, 663  
<223> unknown base

<400> 214  
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<210> 215  
<211> 1807  
<212> DNA  
<213> Homo sapiens

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<210> 216

<211> 479  
 <212> PRT  
 <213> Homo sapiens

<400> 216

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Thr	Leu	Met	His	Arg	Leu	Ala	Pro	His	Cys	Ser	Phe	Ala	Arg	Trp	20	25	30	
Leu	Leu	Cys	Asn	Gly	Ser	Leu	Phe	Arg	Tyr	Lys	His	Pro	Ser	Glu	35	40	45	
Glu	Glu	Leu	Arg	Ala	Leu	Ala	Gly	Lys	Pro	Arg	Pro	Arg	Gly	Arg	50	55	60	
Lys	Glu	Arg	Trp	Ala	Asn	Gly	Leu	Ser	Glu	Glu	Lys	Pro	Leu	Ser	65	70	75	
Val	Pro	Arg	Asp	Ala	Pro	Phe	Gln	Leu	Glu	Thr	Cys	Pro	Leu	Thr	80	85	90	
Thr	Val	Asp	Ala	Leu	Val	Leu	Arg	Phe	Phe	Leu	Glu	Tyr	Gln	Trp	95	100	105	
Phe	Val	Asp	Phe	Ala	Val	Tyr	Ser	Gly	Gly	Val	Tyr	Leu	Phe	Thr	110	115	120	
Glu	Ala	Tyr	Tyr	Tyr	Met	Leu	Gly	Pro	Ala	Lys	Glu	Thr	Asn	Ile	125	130	135	
Ala	Val	Phe	Trp	Cys	Leu	Leu	Thr	Val	Thr	Phe	Ser	Ile	Lys	Met	140	145	150	
Phe	Leu	Thr	Val	Thr	Arg	Leu	Tyr	Phe	Ser	Ala	Glu	Glu	Gly	Gly	155	160	165	
Glu	Arg	Ser	Val	Cys	Leu	Thr	Phe	Ala	Phe	Leu	Phe	Leu	Leu	Leu	170	175	180	
Ala	Met	Leu	Val	Gln	Val	Val	Arg	Glu	Glu	Thr	Leu	Glu	Leu	Gly	185	190	195	
Leu	Glu	Pro	Gly	Leu	Ala	Ser	Met	Thr	Gln	Asn	Leu	Glu	Pro	Leu	200	205	210	
Leu	Lys	Lys	Gln	Gly	Trp	Asp	Trp	Ala	Leu	Pro	Val	Ala	Lys	Leu	215	220	225	
Ala	Ile	Arg	Val	Gly	Leu	Ala	Val	Val	Gly	Ser	Val	Leu	Gly	Ala	230	235	240	
Phe	Leu	Thr	Phe	Pro	Gly	Leu	Arg	Leu	Ala	Gln	Thr	His	Arg	Asp	245	250	255	
Ala	Leu	Thr	Met	Ser	Glu	Asp	Arg	Pro	Met	Leu	Gln	Phe	Leu	Leu	260	265	270	
His	Thr	Ser	Phe	Leu	Ser	Pro	Leu	Phe	Ile	Leu	Trp	Leu	Trp	Thr	275	280	285	
Lys	Pro	Ile	Ala	Arg	Asp	Phe	Leu	His	Gln	Pro	Pro	Phe	Gly	Glu				



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<210> 218  
<211> 2571  
<212> DNA  
<213> Homo sapiens

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aaatattttt cagaagttaa a 2571

<210> 219

<211> 632

<212> PRT

<213> Homo sapiens

<400> 219

Met Lys Ala Leu Leu Leu Leu Val Leu Pro Trp Leu Ser Pro Ala







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 <211> 773  
 <212> DNA  
 <213> Homo sapiens

<400> 220  
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 gtttttaaca tcatcagccc aagcaacaat ggtggcaatg ttcaggagac 200  
 agtgacaatt gataatgaaa aaaataccgc catcgttaac atccatgcag 250  
 gatcatgctc ttctaccaca atttttgact ataaacatgg ctacattgca 300  
 tccaggggtgc tctcccgaag agcctgcttt atcctgaaga tggaccatca 350  
 gaacatccct cctctgaaca atctccaatg gtacatctat gagaaacagg 400  
 ctctggacaa catgttctcc aacaaatata cctgggtcaa gtacaaccct 450  
 ctggagtctc tgatcaaaga cgtggattgg ttctgcttg ggtcaccocat 500  
 tgagaaactc tgcaaacata tccctttgta taagggggaa gtggttgaaa 550  
 acacacataa tgtcgggtgct ggaggctgtg caaaggctgg gctcctgggc 600  
 atcttgggaa tttcaatctg tgcagacatt catgtttagg atgattagcc 650  
 ctcttgTTTT atcttttcaa agaaatacat ccttggttta cactcaaaaag 700  
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 aaaatataaa tgctgtattt ata 773

<210> 221  
 <211> 184  
 <212> PRT  
 <213> Homo sapiens

<400> 221  
 Met Lys Ile Leu Val Ala Phe Leu Val Val Leu Thr Ile Phe Gly  
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 Ile Gln Ser His Gly Tyr Glu Val Phe Asn Ile Ile Ser Pro Ser  
                     20                    25                    30  
 Asn Asn Gly Gly Asn Val Gln Glu Thr Val Thr Ile Asp Asn Glu  
                     35                    40                    45  
 Lys Asn Thr Ala Ile Val Asn Ile His Ala Gly Ser Cys Ser Ser  
                     50                    55                    60  
 Thr Thr Ile Phe Asp Tyr Lys His Gly Tyr Ile Ala Ser Arg Val  
                     65                    70                    75  
 Leu Ser Arg Arg Ala Cys Phe Ile Leu Lys Met Asp His Gln Asn  
                     80                    85                    90

Ile	Pro	Pro	Leu	Asn	Asn	Leu	Gln	Trp	Tyr	Ile	Tyr	Glu	Lys	Gln
				95					100					105
Ala	Leu	Asp	Asn	Met	Phe	Ser	Asn	Lys	Tyr	Thr	Trp	Val	Lys	Tyr
				110					115					120
Asn	Pro	Leu	Glu	Ser	Leu	Ile	Lys	Asp	Val	Asp	Trp	Phe	Leu	Leu
				125					130					135
Gly	Ser	Pro	Ile	Glu	Lys	Leu	Cys	Lys	His	Ile	Pro	Leu	Tyr	Lys
				140					145					150
Gly	Glu	Val	Val	Glu	Asn	Thr	His	Asn	Val	Gly	Ala	Gly	Gly	Cys
				155					160					165
Ala	Lys	Ala	Gly	Leu	Leu	Gly	Ile	Leu	Gly	Ile	Ser	Ile	Cys	Ala
				170					175					180

Asp Ile His Val

<210> 222  
 <211> 992  
 <212> DNA  
 <213> Homo sapiens

<400> 222  
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 ccattgccta caaagtcttg gaagttttcc ccaaaggccg ctgggtgctc 200  
 ataacctgct gtgcaccca gccaccaccg cccatcacct attccctctg 250  
 tggaaccaag aacatcaagg tggccaagaa ggtggtgaag acccagcagc 300  
 cggcctcctt caacctcaac gtcacactca agtccagtcc agacctgctc 350  
 acctacttct gccgggcgtc ctccacctca ggtgcccagtg tggacagtgc 400  
 caggctacag atgcactggg agctgtggtc caagccagtg tctgagctgc 450  
 gggccaactt cactctgcag gacagagggg caggccccag ggtggagatg 500  
 atctgccagg cgtcctcggg cagcccacct atcaccaaca gcctgatcgg 550  
 gaaggatggg caggtccacc tgcagcagag accatgccac aggcagcctg 600  
 ccaacttctc cttcctgccg agccagacat cggactgggtt ctggtgccag 650  
 gctgcaaaca acgccaatgt ccagcacagc gccctcacag tggtgcccc 700  
 aggtggtgac cagaagatgg aggactggca gggccccctg gagagcccca 750  
 tccttgccct gccgctctac aggagcacc gccgtctgag tgaagaggag 800  
 tttggggggg tcaggatagg gaatggggag gtcagaggac gcaaagcagc 850  
 agccatgtag aatgaaccgt ccagagagcc aagcacggca gaggactgca 900



<210> 224  
<211> 1297  
<212> DNA  
<213> Homo sapiens

<400> 224

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ctctcttttg tatgacatca ccgtcatccc taagttcaga cctggaccac 150  
gggtggtgtgc ggttcaaggc caggtggatg aaaagacttt tcttcactat 200  
gactgtggca acaagacagt cacacctgtc agtcccctgg ggaagaaact 250  
aaatgtcaca acggcctgga aagcacagaa ccagttactg agagaggtgg 300  
tggacatact tacagagcaa ctgctgaca ttcagctgga gaattacaca 350  
cccaaggaac ccctcaccct gcaggcaagg atgtcttgtg agcagaaagc 400  
tgaaggacac agcagtggat cttggcagtt cagtttcgat gggcagatct 450  
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gccagaaaga tgaaagaaaa gtgggagaat gacaagggtg tggccatgtc 550  
cttcattac ttctcaatgg gagactgtat aggatggctt gaggacttct 600  
tgatgggcat ggacagcacc ctggagccaa gtgcaggagc accactcgcc 650  
atgtcctcag gcacaacca actcagggcc acagccacca ccctcactct 700  
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ccaatagctc attcactgcc ttgattcctt ttgccaacaa ttttaccagc 950  
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tcttgcaaat gatattgtca gtaaaataat cacgttagac ttcagacctc 1150  
tggggattct ttccgtgtcc tgaaagagaa tttttaaatt atttaataag 1200  
aaaaaattta tattaatgat tgtttccttt agtaatttat tgttctgtac 1250  
tgatatttaa ataaagagtt ctatttccca aaaaaaaaaa aaaaaaa 1297

<210> 225  
<211> 246  
<212> PRT  
<213> Homo sapiens

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caagttatat accgtggaat ggagttgatc ccaaccataa catcgtggag 150

gggttttaatt ttggtggtag ccctcaccca attctggtgt ggcttttcttt 200  
 gcagaggatt ccaccttcaa aatcatgaac tctggctgtt gatcaaaaga 250  
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 agcagaagac tcaacctggc ctcccataaa caggacagat tattcaggtg 350  
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 attccaaaaa gaaaactcaa attgggaggc caaccacag aacagcattt 450  
 ctggggccagg ctgtaatcag aattgtcgtc gtacatgctc aacagcattg 500  
 cttttttccc caaaattaac acattgtgga gaagtgatga tactctcccc 550  
 ttacctttcc tctctccatt caagcattca aagtatatit tcaatgaatt 600  
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 gtattcattt tgaaaaaaaa aaaaaaaaaa aaaaa 735

<210> 227  
 <211> 115  
 <212> PRT  
 <213> Homo sapiens

<400> 227  
 Met Glu Leu Ile Pro Thr Ile Thr Ser Trp Arg Val Leu Ile Leu  
 1 5 10 15  
 Val Val Ala Leu Thr Gln Phe Trp Cys Gly Phe Leu Cys Arg Gly  
 20 25 30  
 Phe His Leu Gln Asn His Glu Leu Trp Leu Leu Ile Lys Arg Glu  
 35 40 45  
 Phe Gly Phe Tyr Ser Lys Ser Gln Tyr Arg Thr Trp Gln Lys Lys  
 50 55 60  
 Leu Ala Glu Asp Ser Thr Trp Pro Pro Ile Asn Arg Thr Asp Tyr  
 65 70 75  
 Ser Gly Asp Gly Lys Asn Gly Phe Tyr Ile Asn Gly Gly Tyr Glu  
 80 85 90  
 Ser His Glu Gln Ile Pro Lys Arg Lys Leu Lys Leu Gly Gly Gln  
 95 100 105  
 Pro Thr Glu Gln His Phe Trp Ala Arg Leu  
 110 115

<210> 228  
 <211> 2185  
 <212> DNA  
 <213> Homo sapiens

<400> 228  
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 cacaccatga agctcttgtg gcaggtaact gtgcaccacc acacctggaa 100

tgccatcctg ctcccgttcg tctacctcac ggcgcaagtg tggattctgt 150  
 gtgcagccat cgctgctgcc gcctcagccg ggccccagaa ctgcccctcc 200  
 gtttgcctgt gcagtaacca gttcagcaag gtggtgtgca cgcgcggggg 250  
 cctctccgag gtcccgcagg gtattccctc gaacaccccg tacctcaacc 300  
 tcatggagaa caacatccag atgatccagg ccgacacctt ccgccacctc 350  
 caccacctgg aggtcctgca gttgggcagg aactccatcc ggcagattga 400  
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 ggcttcaact gtggaactca acttggccca caataacctc tcttctttgc 900  
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 ccatgcacat gcgaggccgc tacctcgtgg aggtggacca ggcctccttc 1100  
 cagtgtctctg ccccttccat catggacgca cctcgagacc tcaacatttc 1150  
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 tgaagtgggt gctgccaat gggacagtgc tcagccacgc ctcccgccac 1250  
 ccaaggatct ctgtcctcaa cgacggcacc ttgaactttt cccacgtgct 1300  
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 caggaaactc aaatatgact cccctcccc aaaaaactta taaaatgcaa 2050  
 tagaatgcac acaaagacag caacttttgt acagagtggg gagagacttt 2100  
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<210> 229  
 <211> 653  
 <212> PRT  
 <213> Homo sapiens

<400> 229  
 Met Lys Leu Leu Trp Gln Val Thr Val His His His Thr Trp Asn  
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 Leu Cys Ala Ala Ile Ala Ala Ala Ala Ser Ala Gly Pro Gln Asn  
 35 40 45  
 Cys Pro Ser Val Cys Ser Cys Ser Asn Gln Phe Ser Lys Val Val  
 50 55 60  
 Cys Thr Arg Arg Gly Leu Ser Glu Val Pro Gln Gly Ile Pro Ser  
 65 70 75  
 Asn Thr Arg Tyr Leu Asn Leu Met Glu Asn Asn Ile Gln Met Ile  
 80 85 90  
 Gln Ala Asp Thr Phe Arg His Leu His His Leu Glu Val Leu Gln  
 95 100 105  
 Leu Gly Arg Asn Ser Ile Arg Gln Ile Glu Val Gly Ala Phe Asn  
 110 115 120  
 Gly Leu Ala Ser Leu Asn Thr Leu Glu Leu Phe Asp Asn Trp Leu  
 125 130 135  
 Thr Val Ile Pro Ser Gly Ala Phe Glu Tyr Leu Ser Lys Leu Arg  
 140 145 150  
 Glu Leu Trp Leu Arg Asn Asn Pro Ile Glu Ser Ile Pro Ser Tyr  
 155 160 165  
 Ala Phe Asn Arg Val Pro Ser Leu Met Arg Leu Asp Leu Gly Glu  
 170 175 180  
 Leu Lys Lys Leu Glu Tyr Ile Ser Glu Gly Ala Phe Glu Gly Leu



				185					190					195
Phe	Asn	Leu	Lys	Tyr 200	Leu	Asn	Leu	Gly	Met 205	Cys	Asn	Ile	Lys	Asp 210
Met	Pro	Asn	Leu	Thr 215	Pro	Leu	Val	Gly	Leu 220	Glu	Glu	Leu	Glu	Met 225
Ser	Gly	Asn	His	Phe 230	Pro	Glu	Ile	Arg	Pro 235	Gly	Ser	Phe	His	Gly 240
Leu	Ser	Ser	Leu	Lys 245	Lys	Leu	Trp	Val	Met 250	Asn	Ser	Gln	Val	Ser 255
Leu	Ile	Glu	Arg	Asn 260	Ala	Phe	Asp	Gly	Leu 265	Ala	Ser	Leu	Val	Glu 270
Leu	Asn	Leu	Ala	His 275	Asn	Asn	Leu	Ser	Ser 280	Leu	Pro	His	Asp	Leu 285
Phe	Thr	Pro	Leu	Arg 290	Tyr	Leu	Val	Glu	Leu 295	His	Leu	His	His	Asn 300
Pro	Trp	Asn	Cys	Asp 305	Cys	Asp	Ile	Leu	Trp 310	Leu	Ala	Trp	Trp	Leu 315
Arg	Glu	Tyr	Ile	Pro 320	Thr	Asn	Ser	Thr	Cys 325	Cys	Gly	Arg	Cys	His 330
Ala	Pro	Met	His	Met 335	Arg	Gly	Arg	Tyr	Leu 340	Val	Glu	Val	Asp	Gln 345
Ala	Ser	Phe	Gln	Cys 350	Ser	Ala	Pro	Phe	Ile 355	Met	Asp	Ala	Pro	Arg 360
Asp	Leu	Asn	Ile	Ser 365	Glu	Gly	Arg	Met	Ala 370	Glu	Leu	Lys	Cys	Arg 375
Thr	Pro	Pro	Met	Ser 380	Ser	Val	Lys	Trp	Leu 385	Leu	Pro	Asn	Gly	Thr 390
Val	Leu	Ser	His	Ala 395	Ser	Arg	His	Pro	Arg 400	Ile	Ser	Val	Leu	Asn 405
Asp	Gly	Thr	Leu	Asn 410	Phe	Ser	His	Val	Leu 415	Leu	Ser	Asp	Thr	Gly 420
Val	Tyr	Thr	Cys	Met 425	Val	Thr	Asn	Val	Ala 430	Gly	Asn	Ser	Asn	Ala 435
Ser	Ala	Tyr	Leu	Asn 440	Val	Ser	Thr	Ala	Glu 445	Leu	Asn	Thr	Ser	Asn 450
Tyr	Ser	Phe	Phe	Thr 455	Thr	Val	Thr	Val	Glu 460	Thr	Thr	Glu	Ile	Ser 465
Pro	Glu	Asp	Thr	Thr 470	Arg	Lys	Tyr	Lys	Pro 475	Val	Pro	Thr	Thr	Ser 480
Thr	Gly	Tyr	Gln	Pro 485	Ala	Tyr	Thr	Thr	Ser 490	Thr	Thr	Val	Leu	Ile 495
Gln	Thr	Thr	Arg	Val	Pro	Lys	Gln	Val	Ala	Val	Pro	Ala	Thr	Asp

500	505	510
Thr Thr Asp Lys Met Gln Thr Ser Leu	Asp Glu Val Met Lys Thr	
515	520	525
Thr Lys Ile Ile Ile Gly Cys Phe Val	Ala Val Thr Leu Leu Ala	
530	535	540
Ala Ala Met Leu Ile Val Phe Tyr Lys	Leu Arg Lys Arg His Gln	
545	550	555
Gln Arg Ser Thr Val Thr Ala Ala Arg	Thr Val Glu Ile Ile Gln	
560	565	570
Val Asp Glu Asp Ile Pro Ala Ala Thr	Ser Ala Ala Ala Thr Ala	
575	580	585
Ala Pro Ser Gly Val Ser Gly Glu Gly	Ala Val Val Leu Pro Thr	
590	595	600
Ile His Asp His Ile Asn Tyr Asn Thr	Tyr Lys Pro Ala His Gly	
605	610	615
Ala His Trp Thr Glu Asn Ser Leu Gly	Asn Ser Leu His Pro Thr	
620	625	630
Val Thr Thr Ile Ser Glu Pro Tyr Ile	Ile Gln Thr His Thr Lys	
635	640	645
Asp Lys Val Gln Glu Thr Gln Ile		
650		

<210> 230  
 <211> 2846  
 <212> DNA  
 <213> Homo sapiens

<400> 230  
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 tacacagtca ttaatgaagc ctgccctgga gcagagtgga atatcatgtg 150  
 tcgggagtgc tgtgaatatg atcagattga gtgcgtctgc cccggaaaga 200  
 gggaagtctg gggttatacc atcccttgct gcaggaatga ggagaatgag 250  
 tgtgactcct gcctgatcca cccaggttgt accatctttg aaaactgcaa 300  
 gagctgccga aatggctcat ggggggttac cttggatgac ttctatgtga 350  
 aggggttcta ctgtgcagag tgccgagcag gctggtacgg aggagactgc 400  
 atgcgatgtg gccaggttct gcgagcccca aagggtcaga ttttgttgga 450  
 aagctatccc ctaaagtctc actgtgaatg gaccattcat gctaaacctg 500  
 ggtttgtcat ccaactaaga tttgtcatgt tgagtctgga gtttgactac 550  
 atgtgccagt atgactatgt tgaggttcgt gatggagaca accgcgatgg 600  
 ccagatcatc aagcgtgtct gtggcaacga gcggccagct cctatccaga 650



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cattgctggg aggctgatgc cgcgtccact actaggacag ccaattggaa 2400  
gatgccaggg cttgcaagaa gtaagtttct tcaaagaaga ccatatacaa 2450  
aacctctcca ctccactgac ctgggtgtct tccccactt tcagttatac 2500  
gaatgccatc agcttgacca gggaagatct gggcttcattg aggccccttt 2550  
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<210> 231  
<211> 720  
<212> PRT  
<213> Homo sapiens

<400> 231  
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Leu Leu Leu Ile Ser Ser Leu Pro Arg Glu Tyr Thr Val Ile Asn  
20 25 30  
Glu Ala Cys Pro Gly Ala Glu Trp Asn Ile Met Cys Arg Glu Cys  
35 40 45  
Cys Glu Tyr Asp Gln Ile Glu Cys Val Cys Pro Gly Lys Arg Glu  
50 55 60  
Val Val Gly Tyr Thr Ile Pro Cys Cys Arg Asn Glu Glu Asn Glu  
65 70 75  
Cys Asp Ser Cys Leu Ile His Pro Gly Cys Thr Ile Phe Glu Asn  
80 85 90  
Cys Lys Ser Cys Arg Asn Gly Ser Trp Gly Gly Thr Leu Asp Asp  
95 100 105  
Phe Tyr Val Lys Gly Phe Tyr Cys Ala Glu Cys Arg Ala Gly Trp  
110 115 120  
Tyr Gly Gly Asp Cys Met Arg Cys Gly Gln Val Leu Arg Ala Pro  
125 130 135  
Lys Gly Gln Ile Leu Leu Glu Ser Tyr Pro Leu Asn Ala His Cys  
140 145 150  
Glu Trp Thr Ile His Ala Lys Pro Gly Phe Val Ile Gln Leu Arg  
155 160 165

Phe	Val	Met	Leu	Ser 170	Leu	Glu	Phe	Asp	Tyr 175	Met	Cys	Gln	Tyr	Asp 180
Tyr	Val	Glu	Val	Arg 185	Asp	Gly	Asp	Asn	Arg 190	Asp	Gly	Gln	Ile	Ile 195
Lys	Arg	Val	Cys	Gly 200	Asn	Glu	Arg	Pro	Ala 205	Pro	Ile	Gln	Ser	Ile 210
Gly	Ser	Ser	Leu	His 215	Val	Leu	Phe	His	Ser 220	Asp	Gly	Ser	Lys	Asn 225
Phe	Asp	Gly	Phe	His 230	Ala	Ile	Tyr	Glu	Glu 235	Ile	Thr	Ala	Cys	Ser 240
Ser	Ser	Pro	Cys	Phe 245	His	Asp	Gly	Thr	Cys 250	Val	Leu	Asp	Lys	Ala 255
Gly	Ser	Tyr	Lys	Cys 260	Ala	Cys	Leu	Ala	Gly 265	Tyr	Thr	Gly	Gln	Arg 270
Cys	Glu	Asn	Leu	Leu 275	Glu	Glu	Arg	Asn	Cys 280	Ser	Asp	Pro	Gly	Gly 285
Pro	Val	Asn	Gly	Tyr 290	Gln	Lys	Ile	Thr	Gly 295	Gly	Pro	Gly	Leu	Ile 300
Asn	Gly	Arg	His	Ala 305	Lys	Ile	Gly	Thr	Val 310	Val	Ser	Phe	Phe	Cys 315
Asn	Asn	Ser	Tyr	Val 320	Leu	Ser	Gly	Asn	Glu 325	Lys	Arg	Thr	Cys	Gln 330
Gln	Asn	Gly	Glu	Trp 335	Ser	Gly	Lys	Gln	Pro 340	Ile	Cys	Ile	Lys	Ala 345
Cys	Arg	Glu	Pro	Lys 350	Ile	Ser	Asp	Leu	Val 355	Arg	Arg	Arg	Val	Leu 360
Pro	Met	Gln	Val	Gln 365	Ser	Arg	Glu	Thr	Pro 370	Leu	His	Gln	Leu	Tyr 375
Ser	Ala	Ala	Phe	Ser 380	Lys	Gln	Lys	Leu	Gln 385	Ser	Ala	Pro	Thr	Lys 390
Lys	Pro	Ala	Leu	Pro 395	Phe	Gly	Asp	Leu	Pro 400	Met	Gly	Tyr	Gln	His 405
Leu	His	Thr	Gln	Leu 410	Gln	Tyr	Glu	Cys	Ile 415	Ser	Pro	Phe	Tyr	Arg 420
Arg	Leu	Gly	Ser	Ser 425	Arg	Arg	Thr	Cys	Leu 430	Arg	Thr	Gly	Lys	Trp 435
Ser	Gly	Arg	Ala	Pro 440	Ser	Cys	Ile	Pro	Ile 445	Cys	Gly	Lys	Ile	Glu 450
Asn	Ile	Thr	Ala	Pro 455	Lys	Thr	Gln	Gly	Leu 460	Arg	Trp	Pro	Trp	Gln 465
Ala	Ala	Ile	Tyr	Arg 470	Arg	Thr	Ser	Gly	Val 475	His	Asp	Gly	Ser	Leu 480

His	Lys	Gly	Ala	Trp	Phe	Leu	Val	Cys	Ser	Gly	Ala	Leu	Val	Asn
				485					490					495
Glu	Arg	Thr	Val	Val	Val	Ala	Ala	His	Cys	Val	Thr	Asp	Leu	Gly
				500					505					510
Lys	Val	Thr	Met	Ile	Lys	Thr	Ala	Asp	Leu	Lys	Val	Val	Leu	Gly
				515					520					525
Lys	Phe	Tyr	Arg	Asp	Asp	Asp	Arg	Asp	Glu	Lys	Thr	Ile	Gln	Ser
				530					535					540
Leu	Gln	Ile	Ser	Ala	Ile	Ile	Leu	His	Pro	Asn	Tyr	Asp	Pro	Ile
				545					550					555
Leu	Leu	Asp	Ala	Asp	Ile	Ala	Ile	Leu	Lys	Leu	Leu	Asp	Lys	Ala
				560					565					570
Arg	Ile	Ser	Thr	Arg	Val	Gln	Pro	Ile	Cys	Leu	Ala	Ala	Ser	Arg
				575					580					585
Asp	Leu	Ser	Thr	Ser	Phe	Gln	Glu	Ser	His	Ile	Thr	Val	Ala	Gly
				590					595					600
Trp	Asn	Val	Leu	Ala	Asp	Val	Arg	Ser	Pro	Gly	Phe	Lys	Asn	Asp
				605					610					615
Thr	Leu	Arg	Ser	Gly	Val	Val	Ser	Val	Val	Asp	Ser	Leu	Leu	Cys
				620					625					630
Glu	Glu	Gln	His	Glu	Asp	His	Gly	Ile	Pro	Val	Ser	Val	Thr	Asp
				635					640					645
Asn	Met	Phe	Cys	Ala	Ser	Trp	Glu	Pro	Thr	Ala	Pro	Ser	Asp	Ile
				650					655					660
Cys	Thr	Ala	Glu	Thr	Gly	Gly	Ile	Ala	Ala	Val	Ser	Phe	Pro	Gly
				665					670					675
Arg	Ala	Ser	Pro	Glu	Pro	Arg	Trp	His	Leu	Met	Gly	Leu	Val	Ser
				680					685					690
Trp	Ser	Tyr	Asp	Lys	Thr	Cys	Ser	His	Arg	Leu	Ser	Thr	Ala	Phe
				695					700					705
Thr	Lys	Val	Leu	Pro	Phe	Lys	Asp	Trp	Ile	Glu	Arg	Asn	Met	Lys
				710					715					720

<210> 232

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 232

aggttcgtga tggagacaac cgcg 24

<210> 233

<211> 24

<212> DNA

<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 233  
tgtcaaggac gcactgccgt catg 24

<210> 234  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 234  
tggccagatc atcaagcgtg tctgtggcaa cgagcggcca gctcctatcc 50

<210> 235  
<211> 1964  
<212> DNA  
<213> Homo sapiens

<400> 235  
accaggcatt gtatcttcag ttgtcatcaa gttcgcaatc agattggaaa 50  
agctcaactt gaagctttct tgcctgcagt gaagcagaga gatagatatt 100  
attcacgtaa taaaaaacat gggcttcaac ctgactttcc acctttccta 150  
caaattccga ttactgttgc tgttgacttt gtgcctgaca gtggttgggt 200  
gggccaccag taactacttc gtgggtgcca ttcaagagat tcctaaagca 250  
aaggagttca tggctaattt ccataagacc ctcatcttgg ggaagggaaa 300  
aactctgact aatgaagcat ccacgaagaa ggtagaactt gacaactgtc 350  
cttctgtgtc tccttacctc agaggccaga gcaagctcat tttcaaacca 400  
gatctcactt tggaagaggt acaggcagaa aatcccaaag tgtccagagg 450  
ccggtatcgc cctcaggaat gtaaagcttt acagagggtc gccatcctcg 500  
ttccccaccg gaacagagag aaacacctga tgtacctgct ggaacatctg 550  
catcccttcc tgcagaggca gcagctggat tatggcatct acgtcatcca 600  
ccaggctgaa ggtaaaaagt ttaatcgagc caaactcttg aatgtgggct 650  
atctagaagc cctcaaggaa gaaaattggg actgctttat attccacgat 700  
gtggacctgg tacccgagaa tgactttaac ctttacaagt gtgaggagca 750  
tccaagcat ctggtggttg gcaggaacag cactgggtac aggttacggt 800  
acagtggata ttttgggggt gttactgcc taagcagaga gcagtttttc 850  
aagggtgaatg gattctctaa caactactgg ggatggggag gcgaagacga 900  
tgacctcaga ctcagggttg agctccaaag aatgaaaatt tcccgcccc 950  
tgctgaagt gggtaaatat acaatggtct tccacactag agacaaaggc 1000





Leu	Leu	Leu	Leu	Thr	Leu	Cys	Leu	Thr	Val	Val	Gly	Trp	Ala	Thr	20	25	30
Ser	Asn	Tyr	Phe	Val	Gly	Ala	Ile	Gln	Glu	Ile	Pro	Lys	Ala	Lys	35	40	45
Glu	Phe	Met	Ala	Asn	Phe	His	Lys	Thr	Leu	Ile	Leu	Gly	Lys	Gly	50	55	60
Lys	Thr	Leu	Thr	Asn	Glu	Ala	Ser	Thr	Lys	Lys	Val	Glu	Leu	Asp	65	70	75
Asn	Cys	Pro	Ser	Val	Ser	Pro	Tyr	Leu	Arg	Gly	Gln	Ser	Lys	Leu	80	85	90
Ile	Phe	Lys	Pro	Asp	Leu	Thr	Leu	Glu	Glu	Val	Gln	Ala	Glu	Asn	95	100	105
Pro	Lys	Val	Ser	Arg	Gly	Arg	Tyr	Arg	Pro	Gln	Glu	Cys	Lys	Ala	110	115	120
Leu	Gln	Arg	Val	Ala	Ile	Leu	Val	Pro	His	Arg	Asn	Arg	Glu	Lys	125	130	135
His	Leu	Met	Tyr	Leu	Leu	Glu	His	Leu	His	Pro	Phe	Leu	Gln	Arg	140	145	150
Gln	Gln	Leu	Asp	Tyr	Gly	Ile	Tyr	Val	Ile	His	Gln	Ala	Glu	Gly	155	160	165
Lys	Lys	Phe	Asn	Arg	Ala	Lys	Leu	Leu	Asn	Val	Gly	Tyr	Leu	Glu	170	175	180
Ala	Leu	Lys	Glu	Glu	Asn	Trp	Asp	Cys	Phe	Ile	Phe	His	Asp	Val	185	190	195
Asp	Leu	Val	Pro	Glu	Asn	Asp	Phe	Asn	Leu	Tyr	Lys	Cys	Glu	Glu	200	205	210
His	Pro	Lys	His	Leu	Val	Val	Gly	Arg	Asn	Ser	Thr	Gly	Tyr	Arg	215	220	225
Leu	Arg	Tyr	Ser	Gly	Tyr	Phe	Gly	Gly	Val	Thr	Ala	Leu	Ser	Arg	230	235	240
Glu	Gln	Phe	Phe	Lys	Val	Asn	Gly	Phe	Ser	Asn	Asn	Tyr	Trp	Gly	245	250	255
Trp	Gly	Gly	Glu	Asp	Asp	Asp	Leu	Arg	Leu	Arg	Val	Glu	Leu	Gln	260	265	270
Arg	Met	Lys	Ile	Ser	Arg	Pro	Leu	Pro	Glu	Val	Gly	Lys	Tyr	Thr	275	280	285
Met	Val	Phe	His	Thr	Arg	Asp	Lys	Gly	Asn	Glu	Val	Asn	Ala	Glu	290	295	300
Arg	Met	Lys	Leu	Leu	His	Gln	Val	Ser	Arg	Val	Trp	Arg	Thr	Asp	305	310	315
Gly	Leu	Ser	Ser	Cys	Ser	Tyr	Lys	Leu	Val	Ser	Val	Glu	His	Asn	320	325	330

Pro Leu Tyr Ile Asn Ile Thr Val Asp Phe Trp Phe Gly Ala  
 335 340

<210> 237  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 237  
 ccttacctca gaggccagag caagc 25

<210> 238  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 238  
 gagcttcac tcgttctgcgt tcacc 25

<210> 239  
 <211> 46  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 239  
 caggaatgta aagctttaca gagggctcgcc atcctcggtc cccacc 46

<210> 240  
 <211> 2567  
 <212> DNA  
 <213> Homo sapiens

<400> 240  
 cgtgggcccgg ggtcgcgag cgggctgtgg gcgcgccgg aggagcgacc 50  
 gccgcagttc tcgagctcca gctgcattcc ctccggtcc gcccacgct 100  
 tctcccgctc cgggccccgc aatggccag gcagtgtggt cgcgcctcgg 150  
 ccgcaccttc tggtttgcct gcctcctgcc ctgggccccg gcaggggtgg 200  
 ccgcaggcct gtatgaactc aatctcacca ccgatagccc tgccaccacg 250  
 ggagcggtag tgaccatctc ggccagcctg gtggccaagg acaacggcag 300  
 cctggccctg cccgctgacg cccacctcta ccgcttcac tggatccaca 350  
 ccccgctggt gcttactggc aagatggaga agggctctcag ctccaccatc 400  
 cgtgtggtcg gccacgtgcc cggggaattc ccggtctctg tctgggtcac 450  
 tgccgctgac tgctggatgt gccagcctgt ggccaggggc tttgtgtcc 500  
 tccccatcac agagttcctc gtgggggacc ttgttgcac ccagaacact 550



cctggatggg gggcaggact aatactgagt gattgcagag tgctttataa 2200  
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 aggccttgca gcggtagaag aggttgagtc aaggccgggc gcggtggctc 2300  
 acgcctgtaa tcccagcact ttgggaggcc gaggcgggtg gatcacgaga 2350  
 tcaggagatc gagaccacc tggctaacac ggtgaaaccc cgtctctact 2400  
 aaaaaaatac aaaaagttag ccgggcgtgg tgggtgggtgc ctgtagtccc 2450  
 agctactcgg gaggctgagg caggagaatg gtgcgaaccc gggaggcgga 2500  
 gcttgcaagt agcccagatg gcgccactgc actccagcct gagtgacaga 2550  
 gcgagactct gtctcca 2567

<210> 241  
 <211> 423  
 <212> PRT  
 <213> Homo sapiens

<400> 241  
 Met Ala Gln Ala Val Trp Ser Arg Leu Gly Arg Ile Leu Trp Leu  
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 Ala Cys Leu Leu Pro Trp Ala Pro Ala Gly Val Ala Ala Gly Leu  
                   20                  25                  30  
 Tyr Glu Leu Asn Leu Thr Thr Asp Ser Pro Ala Thr Thr Gly Ala  
                   35                  40                  45  
 Val Val Thr Ile Ser Ala Ser Leu Val Ala Lys Asp Asn Gly Ser  
                   50                  55                  60  
 Leu Ala Leu Pro Ala Asp Ala His Leu Tyr Arg Phe His Trp Ile  
                   65                  70                  75  
 His Thr Pro Leu Val Leu Thr Gly Lys Met Glu Lys Gly Leu Ser  
                   80                  85                  90  
 Ser Thr Ile Arg Val Val Gly His Val Pro Gly Glu Phe Pro Val  
                   95                  100                  105  
 Ser Val Trp Val Thr Ala Ala Asp Cys Trp Met Cys Gln Pro Val  
                   110                  115                  120  
 Ala Arg Gly Phe Val Val Leu Pro Ile Thr Glu Phe Leu Val Gly  
                   125                  130                  135  
 Asp Leu Val Val Thr Gln Asn Thr Ser Leu Pro Trp Pro Ser Ser  
                   140                  145                  150  
 Tyr Leu Thr Lys Thr Val Leu Lys Val Ser Phe Leu Leu His Asp  
                   155                  160                  165  
 Pro Ser Asn Phe Leu Lys Thr Ala Leu Phe Leu Tyr Ser Trp Asp  
                   170                  175                  180  
 Phe Gly Asp Gly Thr Gln Met Val Thr Glu Asp Ser Val Val Tyr  
                   185                  190                  195



<220>  
<223> Synthetic oligonucleotide probe

<400> 243  
gaaaggccca cagcacatct ggcag 25

<210> 244  
<211> 46  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 244  
ccacgaccg agcaacttcc tcaagaccga cttgtttctc tacagc 46

<210> 245  
<211> 485  
<212> DNA  
<213> Homo sapiens

<400> 245  
gctcaagacc cagcagtggg acagccagac agacggcacg atggcactga 50  
gctcccagat ctgggccgct tgctctctgc tcctcctcct cctcgccagc 100  
ctgaccagtg gctctgtttt cccacaacag acgggacaac ttgcagagct 150  
gcaaccccgag gacagagctg gagccagggc cagctggatg cccatgttcc 200  
agaggcgaag gaggcgagac acccacttcc ccatctgcat tttctgctgc 250  
ggctgctgtc atcgatcaaa gtgtgggatg tgctgcaaga cgtagaacct 300  
acctgccctg ccccgctccc ctcccttctc tatttattcc tgctgccccca 350  
gaacataggt cttggaataa aatggctggg tcttttgttt tccaaaaaaaa 400  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 450  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 485

<210> 246  
<211> 84  
<212> PRT  
<213> Homo sapiens

<400> 246  
Met Ala Leu Ser Ser Gln Ile Trp Ala Ala Cys Leu Leu Leu Leu  
1 5 10 15  
Leu Leu Leu Ala Ser Leu Thr Ser Gly Ser Val Phe Pro Gln Gln  
20 25 30  
Thr Gly Gln Leu Ala Glu Leu Gln Pro Gln Asp Arg Ala Gly Ala  
35 40 45  
Arg Ala Ser Trp Met Pro Met Phe Gln Arg Arg Arg Arg Arg Asp  
50 55 60  
Thr His Phe Pro Ile Cys Ile Phe Cys Cys Gly Cys Cys His Arg  
65 70 75

Ser Lys Cys Gly Met Cys Cys Lys Thr  
80

<210> 247  
<211> 2359  
<212> DNA  
<213> Homo sapiens

<400> 247  
ctgtcaggaa ggaccatctg aaggctgcaa tttgttctta gggaggcagg 50  
tgctggcctg gcctggatct tccaccatgt tcctgttgct gccttttgat 100  
agcctgattg tcaaccttct gggcatctcc ctgactgtcc tcttcaccct 150  
ccttctcggtt ttcacatag tgccagccat ttttgagtc tcctttggta 200  
tccgcaaact ctacatgaaa agtctgttaa aaatctttgc gtgggctacc 250  
ttgagaatgg agcgaggagc caaggagaag aaccaccagc tttaacaagcc 300  
ctacaccaac ggaatcattg caaaggatcc cacttcaacta gaagaagaga 350  
tcaaagagat tcgtcgaagt ggtagtagta aggctctgga caacactcca 400  
gagttcgagc tctctgacat tttctacttt tgccggaaaag gaatggagac 450  
cattatggat gatgagggtga caaagagatt ctcagcagaa gaactggagt 500  
cctggaacct gctgagcaga accaattata acttccagta catcagcctt 550  
cggtcacagg tcctgtgggg gttaggagtg ctgattcggc actgctttct 600  
gctgccgctc aggatagcac tggctttcac agggattagc cttctggtgg 650  
tgggcacaaac tgtggtgga tacttgccaa atgggaggtt taaggaaattc 700  
atgagtaaac atgttcactt aatgtgttac cggatctgcg tgcgagcgc 750  
gacagccatc atcacctacc atgacaggga aaacagacca agaaatggtg 800  
gcatctgtgt ggccaatcat acctcaccga tcgatgtgat catcttggcc 850  
agcgatggct attatgccat ggtgggtcaa gtgcacgggg gactcatggg 900  
tgtgattcag agagccatgg tgaaggcctg cccacacgtc tggtttgagc 950  
gctcggaagt gaaggatcgc cacctggtgg ctaagagact gactgaacat 1000  
gtgcaagata aaagcaagct gcctatctc atcttcccag aaggaaacctg 1050  
catcaataat acatcgggtga tgatgttcaa aaagggaagt tttgaaattg 1100  
gagccacagt ttacctgtt gctatcaagt atgaccctca atttggcgat 1150  
gccttctgga acagcagcaa atacgggatg gtgacgtacc tgctgcgaat 1200  
gatgaccagc tgggccattg tctgcagcgt gtggtacctg cctcccatga 1250  
ctagagaggc agatgaagat gctgtccagt ttgcgaatag ggtgaaatct 1300  
gccattgcca ggcaggagg acttgtggac ctgctgtggg atgggggcct 1350

gaagagggag aaggtgaagg acacgttcaa ggaggagcag cagaagctgt 1400  
acagcaagat gatcgtgggg aaccacaagg acaggagccg ctcttgagcc 1450  
tgctccagc tggctggggc caccgtgcgg ggtgccaacg ggctcagagc 1500  
tgagattgcc gccgccgcc ccactgctgt gtcctttcca gactccaggg 1550  
ctccccgggc tgctctggat cccaggactc cggctttcgc cgagccgcag 1600  
cgggatccct gtgcaccggc cgcagcctac ccttggtggt ctaaaccgat 1650  
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gcgggctgag tggttgggga gatgtggcca tggctctgtg ctagagatgg 1800  
cggtaacaaga gtctgttatg caagcccgtg tgccagggat gtgctggggg 1850  
cggccacccg ctctccagga aaggcacagc tgaggcactg tggctggcctt 1900  
cggcctcaac atcgccccca gccttgagc tctgcagaca tgataggaag 1950  
gaaactgtca tctgcagggg ctttcagcaa aatgaagggt tagattttta 2000  
tgctgctgct gatgggggta ctaaaggag gggaaggagc cagggtgggcc 2050  
gctgactggg ccatggggag aacgtgtgtt cgtactccag gctaaccctg 2100  
aactccccat gtgatgcgcg ctttggtgaa tgtgtgtctc ggtttcccca 2150  
tctgtaatat gagtcggggg gaatggtggt gattcctacc tcacagggct 2200  
gttggtggga ttaaagtgtc gcgggtgagt gaaggacaca tcacgttcag 2250  
tgtttcaagt acaggcccac aaaacggggc acggcaggcc tgagctcaga 2300  
gctgctgcac tgggctttgg atttgttcct gtgagtaaata aaaactggct 2350  
ggtgaatga 2359

<210> 248  
<211> 456  
<212> PRT  
<213> Homo sapiens

<400> 248  
Met Phe Leu Leu Leu Pro Phe Asp Ser Leu Ile Val Asn Leu Leu  
1 5 10 15  
Gly Ile Ser Leu Thr Val Leu Phe Thr Leu Leu Leu Val Phe Ile  
20 25 30  
Ile Val Pro Ala Ile Phe Gly Val Ser Phe Gly Ile Arg Lys Leu  
35 40 45  
Tyr Met Lys Ser Leu Leu Lys Ile Phe Ala Trp Ala Thr Leu Arg  
50 55 60  
Met Glu Arg Gly Ala Lys Glu Lys Asn His Gln Leu Tyr Lys Pro  
65 70 75



Tyr	Thr	Asn	Gly	Ile	Ile	Ala	Lys	Asp	Pro	Thr	Ser	Leu	Glu	Glu	
				80					85					90	
Glu	Ile	Lys	Glu	Ile	Arg	Arg	Ser	Gly	Ser	Ser	Lys	Ala	Leu	Asp	
				95					100					105	
Asn	Thr	Pro	Glu	Phe	Glu	Leu	Ser	Asp	Ile	Phe	Tyr	Phe	Cys	Arg	
				110					115					120	
Lys	Gly	Met	Glu	Thr	Ile	Met	Asp	Asp	Glu	Val	Thr	Lys	Arg	Phe	
				125					130					135	
Ser	Ala	Glu	Glu	Leu	Glu	Ser	Trp	Asn	Leu	Leu	Ser	Arg	Thr	Asn	
				140					145					150	
Tyr	Asn	Phe	Gln	Tyr	Ile	Ser	Leu	Arg	Leu	Thr	Val	Leu	Trp	Gly	
				155					160					165	
Leu	Gly	Val	Leu	Ile	Arg	Tyr	Cys	Phe	Leu	Leu	Pro	Leu	Arg	Ile	
				170					175					180	
Ala	Leu	Ala	Phe	Thr	Gly	Ile	Ser	Leu	Leu	Val	Val	Gly	Thr	Thr	
				185					190					195	
Val	Val	Gly	Tyr	Leu	Pro	Asn	Gly	Arg	Phe	Lys	Glu	Phe	Met	Ser	
				200					205					210	
Lys	His	Val	His	Leu	Met	Cys	Tyr	Arg	Ile	Cys	Val	Arg	Ala	Leu	
				215					220					225	
Thr	Ala	Ile	Ile	Thr	Tyr	His	Asp	Arg	Glu	Asn	Arg	Pro	Arg	Asn	
				230					235					240	
Gly	Gly	Ile	Cys	Val	Ala	Asn	His	Thr	Ser	Pro	Ile	Asp	Val	Ile	
				245					250					255	
Ile	Leu	Ala	Ser	Asp	Gly	Tyr	Tyr	Ala	Met	Val	Gly	Gln	Val	His	
				260					265					270	
Gly	Gly	Leu	Met	Gly	Val	Ile	Gln	Arg	Ala	Met	Val	Lys	Ala	Cys	
				275					280					285	
Pro	His	Val	Trp	Phe	Glu	Arg	Ser	Glu	Val	Lys	Asp	Arg	His	Leu	
				290					295					300	
Val	Ala	Lys	Arg	Leu	Thr	Glu	His	Val	Gln	Asp	Lys	Ser	Lys	Leu	
				305					310					315	
Pro	Ile	Leu	Ile	Phe	Pro	Glu	Gly	Thr	Cys	Ile	Asn	Asn	Thr	Ser	
				320					325					330	
Val	Met	Met	Phe	Lys	Lys	Gly	Ser	Phe	Glu	Ile	Gly	Ala	Thr	Val	
				335					340					345	
Tyr	Pro	Val	Ala	Ile	Lys	Tyr	Asp	Pro	Gln	Phe	Gly	Asp	Ala	Phe	
				350					355					360	
Trp	Asn	Ser	Ser	Lys	Tyr	Gly	Met	Val	Thr	Tyr	Leu	Leu	Arg	Met	
				365					370					375	
Met	Thr	Ser	Trp	Ala	Ile	Val	Cys	Ser	Val	Trp	Tyr	Leu	Pro	Pro	
				380					385					390	

Met	Thr	Arg	Glu	Ala	Asp	Glu	Asp	Ala	Val	Gln	Phe	Ala	Asn	Arg
				395					400					405
Val	Lys	Ser	Ala	Ile	Ala	Arg	Gln	Gly	Gly	Leu	Val	Asp	Leu	Leu
				410					415					420
Trp	Asp	Gly	Gly	Leu	Lys	Arg	Glu	Lys	Val	Lys	Asp	Thr	Phe	Lys
				425					430					435
Glu	Glu	Gln	Gln	Lys	Leu	Tyr	Ser	Lys	Met	Ile	Val	Gly	Asn	His
				440					445					450
Lys	Asp	Arg	Ser	Arg	Ser									
				455										

<210> 249  
 <211> 1103  
 <212> DNA  
 <213> Homo sapiens

<400> 249  
 gccctcgaa accaggactc cagcacctct ggtcccgccc tcacccggac 50  
 ccctggccct caogtctcct ccagggatgg cgctggcggc tttgatgatc 100  
 gccctcgga gacctggcct ccacacctgg caggcccagg ctgttcccac 150  
 catcctgccc ctgggcctgg ctccagacac ctttgacgat acctatgttg 200  
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 atggcccacc atgccctgct gcgggaatcc tgggaggcag cccaggagac 300  
 ctgggaggac aagcgctgag ggcttacctt gcccctggc ttcaaagccc 350  
 agaatggaat agccattatg gtctacacca actcatcgaa caccttgtac 400  
 tgggagttga atcaggccgt gcggacgggc ggaggctccc gggagctcta 450  
 catgaggcac tttcccttca aggccctgca tttctacctg atccggggccc 500  
 tgcagctgct gcgaggcagt gggggctgca gcaggggacc tggggagggtg 550  
 gtgttccgag gtgtgggcag ccttcgcttt gaaccaaga ggctggggga 600  
 ctctgtccgc ttgggccagt ttgcctccag ctccctggat aaggcagtgg 650  
 cccacagatt tggggagaag aggcggggct gtgtgtctgc gccaggggtg 700  
 cagctagggt cacaatctga gggggcctcc tctctgcccc cctggaagac 750  
 tctgtctcttg gcccctggag agttccagct ctgaggggtt gggccctgaa 800  
 agtccaacat ctgccactta ggagccctgg gaacgggtga cttcatatg 850  
 acgaagaggc acctccagca gccttgagaa gcaagaacat ggttccggac 900  
 ccagccctag cagccttctc cccaaccagg atgttggcct ggggaggcca 950  
 cagcagggct gagggaaactc tgctatgtga tggggacttc ctgggacaag 1000  
 caaggaaagt actgaggcag ccacttgatt gaacggtgtt gcaatgtgga 1050



<220>  
<223> Synthetic oligonucleotide probe

<400> 251  
ccaccacctg gaggtcctgc agttgggcag gaactccatc cggcagattg 50

<210> 252  
<211> 1076  
<212> DNA  
<213> Homo sapiens

<400> 252  
gtggcttcat ttcagtggct gacttccaga gagcaatatg gctggttccc 50  
caacatgcct caccctcatc tatacctttt ggcagctcac agggtcagca 100  
gcctctggac ccgtaaaaga gctggtcggt tccgttggtg gggccgtgac 150  
tttccccctg aagtccaaag taaagcaagt tgactctatt gtctggacct 200  
tcaacacaac ccctcttgtc accatacagc cagaaggggg cactatcata 250  
gtgacccaaa atcgtaatag ggagagagta gacttcccag atggaggcta 300  
ctccctgaag ctacgcaaac tgaagaagaa tgactcaggg atctactatg 350  
tggggatata cagctcatca ctccagcagc cctccacca ggagtacgtg 400  
ctgcatgtct acgagcacct gtcaaagcct aaagtcacca tgggtctgca 450  
gagcaataag aatggcacct gtgtgaccaa tctgacatgc tgcattggaac 500  
atggggaaga ggatgtgatt tatacctgga aggcctggg gcaagcagcc 550  
aatgagtccc ataatgggtc catcctcccc atctcctgga gatggggaga 600  
aagtgatatg accttcatct gcgttgccag gaaccctgtc agcagaaaact 650  
tctcaagccc catccttgcc aggaagctct gtgaagggtc tgctgatgac 700  
ccagattcct ccattgtcct cctgtgtctc ctgttggtgc ccctcctgct 750  
cagtctcttt gtactggggc tatttctttg gtttctgaag agagagagac 800  
aagaagagta cattgaagag aagaagagag tggacatttg tcgggaaaact 850  
cctaacatat gccccattc tggagagaac acagagtacg acacaatccc 900  
tcacactaat agaacaatcc taaaggaaga tccagcaaata acggtttact 950  
ccactgtgga aataccgaaa aagatggaaa atccccactc actgctcacg 1000  
atgccagaca caccaaggct atttgcctat gagaatgtta tctagacagc 1050  
agtgcactcc cctaagtctc tgetca 1076

<210> 253  
<211> 335  
<212> PRT  
<213> Homo sapiens

<400> 253  
Met Ala Gly Ser Pro Thr Cys Leu Thr Leu Ile Tyr Ile Leu Trp

1	5	10	15
Gln Leu Thr Gly Ser	Ala Ala Ser Gly	Pro Val Lys Glu Leu Val	20 25 30
Gly Ser Val Gly Gly	Ala Val Thr Phe	Pro Leu Lys Ser Lys Val	35 40 45
Lys Gln Val Asp Ser	Ile Val Trp Thr	Phe Asn Thr Thr Pro Leu	50 55 60
Val Thr Ile Gln Pro	Glu Gly Gly Thr	Ile Ile Val Thr Gln Asn	65 70 75
Arg Asn Arg Glu Arg	Val Asp Phe Pro	Asp Gly Gly Tyr Ser Leu	80 85 90
Lys Leu Ser Lys Leu	Lys Lys Asn Asp	Ser Gly Ile Tyr Tyr Val	95 100 105
Gly Ile Tyr Ser Ser	Ser Leu Gln Gln	Pro Ser Thr Gln Glu Tyr	110 115 120
Val Leu His Val Tyr	Glu His Leu Ser	Lys Pro Lys Val Thr Met	125 130 135
Gly Leu Gln Ser Asn	Lys Asn Gly Thr	Cys Val Thr Asn Leu Thr	140 145 150
Cys Cys Met Glu His	Gly Glu Glu Asp	Val Ile Tyr Thr Trp Lys	155 160 165
Ala Leu Gly Gln Ala	Ala Asn Glu Ser	His Asn Gly Ser Ile Leu	170 175 180
Pro Ile Ser Trp Arg	Trp Gly Glu Ser	Asp Met Thr Phe Ile Cys	185 190 195
Val Ala Arg Asn Pro	Val Ser Arg Asn	Phe Ser Ser Pro Ile Leu	200 205 210
Ala Arg Lys Leu Cys	Glu Gly Ala Ala	Asp Asp Pro Asp Ser Ser	215 220 225
Met Val Leu Leu Cys	Leu Leu Leu Val	Pro Leu Leu Leu Ser Leu	230 235 240
Phe Val Leu Gly Leu	Phe Leu Trp Phe	Leu Lys Arg Glu Arg Gln	245 250 255
Glu Glu Tyr Ile Glu	Glu Lys Lys Arg	Val Asp Ile Cys Arg Glu	260 265 270
Thr Pro Asn Ile Cys	Pro His Ser Gly	Glu Asn Thr Glu Tyr Asp	275 280 285
Thr Ile Pro His Thr	Asn Arg Thr Ile	Leu Lys Glu Asp Pro Ala	290 295 300
Asn Thr Val Tyr Ser	Thr Val Glu Ile	Pro Lys Lys Met Glu Asn	305 310 315
Pro His Ser Leu Leu	Thr Met Pro Asp	Thr Pro Arg Leu Phe Ala	

330

```
<210> 254
<211> 1053
<212> DNA
<213> Homo sapiens
```

```

ctgggttcccc aacatgcctc accctcatct atatacctttg gcagctcaca 50
gggtcagcag cctctggacc cgtgaaagag ctgggtcgggt ccgttgggtgg 100
ggccgtgact ttccccctga agtccaaagt aaagcaagtt gactctattg 150
tctggacctt caacacaacc cctcttgtca ccatacagcc agaagggggc 200
actatcatag tgacccaaaa tcgtaatagg gagagagtag acttcccaga 250
tggaggctac tccctgaagc tcagcaaact gaagaagaat gactcagggg 300
tctactatgt ggggatatac agctcatcac tccagcagcc ctccaccag 350
gagtacgtgc tgcattgtcta cgagcacctg tcaaagccta aagtcacat 400
gggtctgcag agcaataaga atggcacctg tgtgaccaat ctgacatgct 450
gcatggaaca tggggaagag gatgtgattt atacctggaa ggccctgggg 500
caagcagcca atgagtccca taatgggtcc atcctcccca tctcctggag 550
atggggagaa agtgatatga ccttcatctg cgttgccagg aaccctgtca 600
gcagaaactt ctcaagcccc atccttgcca ggaagctctg tgaagggtgt 650
gctgatgacc cagattcctc catgggtcctc ctgtgtctcc tgttgggtgcc 700
cctcctgtctc agtctctttg tactgggggt atttcttttg tttctgaaga 750
gagagagaca agaagagtac attgaagaga agaagagagt ggacatttgt 800
cgggaaactc ctaacatatg ccccatctt ggagagaaca cagagtacga 850
cacaatccct cacactaata gaacaatcct aaaggaagat ccagcaaata 900
cgggtttactc cactgtggaa ataccgaaaa agatggaaaa tccccactca 950
ctgctcacga tgccagacac accaaggcta tttgcctatg agaatgttat 1000
ctagacagca gtgcactccc ctaagtctct gctcaaaaaa aaaaaaaaaa 1050
aaa 1053

```

```
<210> 255
<211> 860
<212> DNA
<213> Homo sapiens
```

gaaagacgtg gtcctgacag acagacaatc ctattcccta ccaaaatgaa 50

gatgctgctg ctgctgtgtt tgggactgac cctagtctgt gtccatgcag 100  
aagaagctag ttctacggga aggaacttta atgtagaaaa gattaatggg 150  
gaatggcata ctattatcct ggcctctgac aaaagagaaa agatagaaga 200  
acatggcaac tttagacttt ttctggagca aatccatgtc ttggagaatt 250  
ccttagttct taaagtccat actgtaagag atgaagagtg ctccgaatta 300  
tctatgggtg ctgacaaaac agaaaaggct ggtgaatatt ctgtgacgta 350  
tgatggattc aatacattta ctatacctaa gacagactat gataactttc 400  
ttatggctca cctcattaac gaaaaggatg gggaaacott ccagctgatg 450  
gggctctatg gccgagaacc agatttgagt tcagacatca aggaaagggt 500  
tgcacaacta tgtgaggagc atggaatcct tagagaaaat atcattgacc 550  
tatccaatgc caatcgctgc ctccaggccc gagaatgaag aatggcctga 600  
gcctccagtg ttgagtggac acttctcacc aggactccac catcatccct 650  
tcctatccat acagcatccc cagtataaat tctgtgatct gcattccatc 700  
ctgtctcact gagaagtcca attccagtct atcaacatgt tacctaggat 750  
acctcatcaa gaatcaaaga cttcttttaa tttctctttg atacaccott 800  
gacaattttt catgaaatta ttctcttcc tgttcaataa atgattaccc 850  
ttgcacttaa 860

<210> 256  
<211> 180  
<212> PRT  
<213> Homo sapiens

<400> 256  
Met Lys Met Leu Leu Leu Leu Cys Leu Gly Leu Thr Leu Val Cys  
1 5 10 15  
Val His Ala Glu Glu Ala Ser Ser Thr Gly Arg Asn Phe Asn Val  
20 25 30  
Glu Lys Ile Asn Gly Glu Trp His Thr Ile Ile Leu Ala Ser Asp  
35 40 45  
Lys Arg Glu Lys Ile Glu Glu His Gly Asn Phe Arg Leu Phe Leu  
50 55 60  
Glu Gln Ile His Val Leu Glu Asn Ser Leu Val Leu Lys Val His  
65 70 75  
Thr Val Arg Asp Glu Glu Cys Ser Glu Leu Ser Met Val Ala Asp  
80 85 90  
Lys Thr Glu Lys Ala Gly Glu Tyr Ser Val Thr Tyr Asp Gly Phe  
95 100 105  
Asn Thr Phe Thr Ile Pro Lys Thr Asp Tyr Asp Asn Phe Leu Met  
110 115 120

Ala	His	Leu	Ile	Asn	Glu	Lys	Asp	Gly	Glu	Thr	Phe	Gln	Leu	Met
				125					130					135
Gly	Leu	Tyr	Gly	Arg	Glu	Pro	Asp	Leu	Ser	Ser	Asp	Ile	Lys	Glu
				140					145					150
Arg	Phe	Ala	Gln	Leu	Cys	Glu	Glu	His	Gly	Ile	Leu	Arg	Glu	Asn
				155					160					165
Ile	Ile	Asp	Leu	Ser	Asn	Ala	Asn	Arg	Cys	Leu	Gln	Ala	Arg	Glu
				170					175					180

<210> 257  
 <211> 766  
 <212> DNA  
 <213> Homo sapiens

<400> 257  
 ggctcgagcg tttctgagcc aggggtgacc atgacctgct gcgaaggatg 50  
 gacatcctgc aatggattca gcctgctggt tctactgctg ttaggagtag 100  
 ttctcaatgc gatacctcta attgtcagct tagttgagga agaccaattt 150  
 tctcaaaacc ccatctcttg ctttgagtgg tggttcccag gaattatagg 200  
 agcaggtctg atggccattc cagcaacaac aatgtccttg acagcaagaa 250  
 aaagagcgtg ctgcaacaac agaactggaa tgtttctttc atcatttttc 300  
 agtgtgatca cagtcattgg tgctctgtat tgcattgctga tatccatcca 350  
 ggctctctta aaaggtcctc tcatgtgtaa ttctccaagc aacagtaatg 400  
 ccaattgtga attttcattg aaaaacatca gtgacattca tccagaatcc 450  
 ttcaacttgc agtgggtttt caatgactct tgtgcacctc ctactgggtt 500  
 caataaacc accagtaacg acaccatggc gagtggctgg agagcatcta 550  
 gtttccactt cgattctgaa gaaaacaaac ataggcttat ccacttctca 600  
 gtatttttag gtctattgct tggttgaatt ctggaggtcc tgtttgggct 650  
 cagtcagata gtcacgggtt tccttggctg tctgtgtgga gtctctaagc 700  
 gaagaagtca aattgtgtag tttaatggga ataaaatgta agtatcagta 750  
 gtttgaaaaa aaaaaa 766

<210> 258  
 <211> 229  
 <212> PRT  
 <213> Homo sapiens

<400> 258  
 Met Thr Cys Cys Glu Gly Trp Thr Ser Cys Asn Gly Phe Ser Leu  
 1 5 10 15  
 Leu Val Leu Leu Leu Leu Gly Val Val Leu Asn Ala Ile Pro Leu  
 20 25 30  
 Ile Val Ser Leu Val Glu Glu Asp Gln Phe Ser Gln Asn Pro Ile



35										40					45				
Ser	Cys	Phe	Glu	Trp	Trp	Phe	Pro	Gly	Ile	Ile	Gly	Ala	Gly	Leu					
				50					55					60					
Met	Ala	Ile	Pro	Ala	Thr	Thr	Met	Ser	Leu	Thr	Ala	Arg	Lys	Arg					
				65					70					75					
Ala	Cys	Cys	Asn	Asn	Arg	Thr	Gly	Met	Phe	Leu	Ser	Ser	Phe	Phe					
				80					85					90					
Ser	Val	Ile	Thr	Val	Ile	Gly	Ala	Leu	Tyr	Cys	Met	Leu	Ile	Ser					
				95					100					105					
Ile	Gln	Ala	Leu	Leu	Lys	Gly	Pro	Leu	Met	Cys	Asn	Ser	Pro	Ser					
				110					115					120					
Asn	Ser	Asn	Ala	Asn	Cys	Glu	Phe	Ser	Leu	Lys	Asn	Ile	Ser	Asp					
				125					130					135					
Ile	His	Pro	Glu	Ser	Phe	Asn	Leu	Gln	Trp	Phe	Phe	Asn	Asp	Ser					
				140					145					150					
Cys	Ala	Pro	Pro	Thr	Gly	Phe	Asn	Lys	Pro	Thr	Ser	Asn	Asp	Thr					
				155					160					165					
Met	Ala	Ser	Gly	Trp	Arg	Ala	Ser	Ser	Phe	His	Phe	Asp	Ser	Glu					
				170					175					180					
Glu	Asn	Lys	His	Arg	Leu	Ile	His	Phe	Ser	Val	Phe	Leu	Gly	Leu					
				185					190					195					
Leu	Leu	Val	Gly	Ile	Leu	Glu	Val	Leu	Phe	Gly	Leu	Ser	Gln	Ile					
				200					205					210					
Val	Ile	Gly	Phe	Leu	Gly	Cys	Leu	Cys	Gly	Val	Ser	Lys	Arg	Arg					
				215					220					225					

Ser Gln Ile Val

<210> 259  
 <211> 434  
 <212> DNA  
 <213> Homo sapiens

<400> 259  
 gtcgaatcca aatcactcat tgtgaaagct gagctcacag ccgaataagc 50  
 caccatgagg ctgtcagtgt gtctcctgat ggtctcgctg gccctttgct 100  
 gotaccaggc ccatgctctt gtctgcccag ctgttgcttc tgagatcaca 150  
 gtcttcttat tcttaagtga cgctgcggtta aacctccaag ttgccaaact 200  
 taatccacct ccagaagctc ttgcagccaa gttggaagtg aagcactgca 250  
 ccgatcagat atcttttaag aaacgactct cattgaaaaa gtcctgggtg 300  
 aaatagtga aaaaatgtggt gtgtgacatg taaaaatgct caacctggtt 350  
 tccaaagtct ttcaacgaca ccctgatctt cactaaaaat tgtaaagggtt 400

tcaacacggtt gctttaataa atcacttgcc ctgc 434

<210> 260  
<211> 83  
<212> PRT  
<213> Homo sapiens

<400> 260  
Met Arg Leu Ser Val Cys Leu Leu Met Val Ser Leu Ala Leu Cys  
1 5 10 15  
Cys Tyr Gln Ala His Ala Leu Val Cys Pro Ala Val Ala Ser Glu  
20 25 30  
Ile Thr Val Phe Leu Phe Leu Ser Asp Ala Ala Val Asn Leu Gln  
35 40 45  
Val Ala Lys Leu Asn Pro Pro Pro Glu Ala Leu Ala Ala Lys Leu  
50 55 60  
Glu Val Lys His Cys Thr Asp Gln Ile Ser Phe Lys Lys Arg Leu  
65 70 75  
Ser Leu Lys Lys Ser Trp Trp Lys  
80

<210> 261  
<211> 636  
<212> DNA  
<213> Homo sapiens

<400> 261  
atccgttctc tgcgctgcc a gctcaggtga gccctcgcca aggtgacctc 50  
gcaggacact ggtgaaggag cagtgaggaa cctgcagagt cacacagttg 100  
ctgaccaatt gagctgtgag cctggagcag atccgtgggc tgcagacccc 150  
cgccccagtg cctctcccc tgcagccctg cccctcgaac tgtgacatgg 200  
agagagtgac cctggccctt ctctactgg caggcctgac tgccttgga 250  
gccaatgacc catttgccaa taaagacgat cccttctact atgactggaa 300  
aaacctgcag ctgagcggac tgatctgcgg agggctcctg gccattgctg 350  
ggatcgcggc agttctgagt ggcaaagca aatacaagag cagccagaag 400  
cagcacagtc ctgtacctga gaaggccatc cactcatca ctccaggctc 450  
tgccactact tgctgagcac aggactggcc tccagggatg gcctgaagcc 500  
taacactggc cccagcacc tctccctg ggaggcctta tctcaagga 550  
aggacttctc tccaagggca ggctgttagg ccccttctg atcaggaggc 600  
ttctttatga attaaactcg cccaccacc ccctca 636

<210> 262  
<211> 89  
<212> PRT  
<213> Homo sapiens

<400> 262

Met Glu Arg Val Thr Leu Ala Leu Leu Leu Leu Ala Gly Leu Thr  
1 5 10 15

Ala Leu Glu Ala Asn Asp Pro Phe Ala Asn Lys Asp Asp Pro Phe  
20 25 30

Tyr Tyr Asp Trp Lys Asn Leu Gln Leu Ser Gly Leu Ile Cys Gly  
35 40 45

Gly Leu Leu Ala Ile Ala Gly Ile Ala Ala Val Leu Ser Gly Lys  
50 55 60

Cys Lys Tyr Lys Ser Ser Gln Lys Gln His Ser Pro Val Pro Glu  
65 70 75

Lys Ala Ile Pro Leu Ile Thr Pro Gly Ser Ala Thr Thr Cys  
80 85

<210> 263

<211> 1676

<212> DNA

<213> Homo sapiens

<400> 263

ggagaagagg ttgtgtggga caagctgctc cgcacagaag gatgtcgctg 50  
ctgagcctgc cctggctggg cctcagaccg gtggcaatgt ccccatggct 100  
actcctgctg ctggttgttg gctcctggct actcgcccg ctcctggctt 150  
ggacctatgc cttctataac aactgccgcc ggctccagtg tttccacag 200  
ccccaaaac ggaactggtt ttgggggtcac ctgggcctga tcaactcctac 250  
agaggagggc ttgaaggact cgaccagat gtcggccacc tattcccagg 300  
gctttacggt atggctgggt cccatcatcc ccttcacgt tttatgccac 350  
cctgacacca tccggtctat caccaatgcc tcagctgcca ttgcaccaa 400  
ggataatctc ttcacaggt tctgaagcc ctggctggga gaagggatac 450  
tgctgagtgg cggtgacaag tggagccgcc accgtcggat gctgacgcc 500  
gccttccatt tcaacatcct gaagtctat ataacgatct tcaacaagag 550  
tgcaaacatc atgcttgaca agtggcagca cctggcctca gagggcagca 600  
gtcgtctgga catgtttgag cacatcagcc tcatgacctt ggacagtcta 650  
cagaaatgca tcttcagctt tgacagccat tgtcaggaga ggcccagtga 700  
atatattgcc accatcttgg agctcagtg ccttgtagag aaaagaagcc 750  
agcatatcct ccagcacatg gactttctgt attacctctc ccatgacggg 800  
cggcgcttcc acagggcctg ccgcctgggt catgacttca cagacgctgt 850  
catccgggag cggcgctgca cctcccccac tcagggtatt gatgattttt 900  
tcaaagacaa agccaagtcc aagactttgg atttcattga tgtgcttctg 950

ctgagcaagg atgaagatgg gaaggcattg tcagatgagg atataagagc 1000  
 agaggctgac accttcatgt ttggaggcca tgacaccacg gccagtggcc 1050  
 tctcctgggt cctgtacaac ctgcgaggc acccagaata ccaggagcgc 1100  
 tgccgacagg aggtgcaaga gcttctgaag gaccgcatc ctaaagagat 1150  
 tgaatgggac gacctggccc agctgccctt cctgaccatg tgcgtgaagg 1200  
 agagcctgag gttacatccc ccagctccct tcattctccc atgctgcacc 1250  
 caggacattg ttctcccaga tggccgagtc atccccaaag gcattacctg 1300  
 cctcatcgat attatagggg tccatcacia cccaactgtg tggccggatc 1350  
 ctgaggtcta cgaccccttc cgctttgacc cagagaacag caaggggagg 1400  
 tcacctctgg cttttattcc tttctccgca gggcccagga actgcatcgg 1450  
 gcaggcgttc gccatggcgg agatgaaagt ggtcctggcg ttgatgctgc 1500  
 tgcaacttcg gttcctgcca gaccacactg agccccgcag gaagctggaa 1550  
 ttgatcatgc ggcgcgaggg cgggctttgg ctgcgggtgg agccccctgaa 1600  
 tgtaggcttg cagtgacttt ctgaccatc cacctgtttt tttgcagatt 1650  
 gtcatgaata aaacggtgct gtcaaa 1676

<210> 264  
 <211> 524  
 <212> PRT  
 <213> Homo sapiens

<400> 264  
 Met Ser Leu Leu Ser Leu Pro Trp Leu Gly Leu Arg Pro Val Ala  
 1 5 10 15  
 Met Ser Pro Trp Leu Leu Leu Leu Leu Val Val Gly Ser Trp Leu  
 20 25 30  
 Leu Ala Arg Ile Leu Ala Trp Thr Tyr Ala Phe Tyr Asn Asn Cys  
 35 40 45  
 Arg Arg Leu Gln Cys Phe Pro Gln Pro Pro Lys Arg Asn Trp Phe  
 50 55 60  
 Trp Gly His Leu Gly Leu Ile Thr Pro Thr Glu Glu Gly Leu Lys  
 65 70 75  
 Asp Ser Thr Gln Met Ser Ala Thr Tyr Ser Gln Gly Phe Thr Val  
 80 85 90  
 Trp Leu Gly Pro Ile Ile Pro Phe Ile Val Leu Cys His Pro Asp  
 95 100 105  
 Thr Ile Arg Ser Ile Thr Asn Ala Ser Ala Ala Ile Ala Pro Lys  
 110 115 120  
 Asp Asn Leu Phe Ile Arg Phe Leu Lys Pro Trp Leu Gly Glu Gly  
 125 130 135

Ile	Leu	Leu	Ser	Gly	Gly	Asp	Lys	Trp	Ser	Arg	His	Arg	Arg	Met	140	145	150
Leu	Thr	Pro	Ala	Phe	His	Phe	Asn	Ile	Leu	Lys	Ser	Tyr	Ile	Thr	155	160	165
Ile	Phe	Asn	Lys	Ser	Ala	Asn	Ile	Met	Leu	Asp	Lys	Trp	Gln	His	170	175	180
Leu	Ala	Ser	Glu	Gly	Ser	Ser	Arg	Leu	Asp	Met	Phe	Glu	His	Ile	185	190	195
Ser	Leu	Met	Thr	Leu	Asp	Ser	Leu	Gln	Lys	Cys	Ile	Phe	Ser	Phe	200	205	210
Asp	Ser	His	Cys	Gln	Glu	Arg	Pro	Ser	Glu	Tyr	Ile	Ala	Thr	Ile	215	220	225
Leu	Glu	Leu	Ser	Ala	Leu	Val	Glu	Lys	Arg	Ser	Gln	His	Ile	Leu	230	235	240
Gln	His	Met	Asp	Phe	Leu	Tyr	Tyr	Leu	Ser	His	Asp	Gly	Arg	Arg	245	250	255
Phe	His	Arg	Ala	Cys	Arg	Leu	Val	His	Asp	Phe	Thr	Asp	Ala	Val	260	265	270
Ile	Arg	Glu	Arg	Arg	Arg	Thr	Leu	Pro	Thr	Gln	Gly	Ile	Asp	Asp	275	280	285
Phe	Phe	Lys	Asp	Lys	Ala	Lys	Ser	Lys	Thr	Leu	Asp	Phe	Ile	Asp	290	295	300
Val	Leu	Leu	Leu	Ser	Lys	Asp	Glu	Asp	Gly	Lys	Ala	Leu	Ser	Asp	305	310	315
Glu	Asp	Ile	Arg	Ala	Glu	Ala	Asp	Thr	Phe	Met	Phe	Gly	Gly	His	320	325	330
Asp	Thr	Thr	Ala	Ser	Gly	Leu	Ser	Trp	Val	Leu	Tyr	Asn	Leu	Ala	335	340	345
Arg	His	Pro	Glu	Tyr	Gln	Glu	Arg	Cys	Arg	Gln	Glu	Val	Gln	Glu	350	355	360
Leu	Leu	Lys	Asp	Arg	Asp	Pro	Lys	Glu	Ile	Glu	Trp	Asp	Asp	Leu	365	370	375
Ala	Gln	Leu	Pro	Phe	Leu	Thr	Met	Cys	Val	Lys	Glu	Ser	Leu	Arg	380	385	390
Leu	His	Pro	Pro	Ala	Pro	Phe	Ile	Ser	Arg	Cys	Cys	Thr	Gln	Asp	395	400	405
Ile	Val	Leu	Pro	Asp	Gly	Arg	Val	Ile	Pro	Lys	Gly	Ile	Thr	Cys	410	415	420
Leu	Ile	Asp	Ile	Ile	Gly	Val	His	His	Asn	Pro	Thr	Val	Trp	Pro	425	430	435
Asp	Pro	Glu	Val	Tyr	Asp	Pro	Phe	Arg	Phe	Asp	Pro	Glu	Asn	Ser	440	445	450

Lys Gly Arg Ser Pro Leu Ala Phe Ile Pro Phe Ser Ala Gly Pro  
 455 460 465  
 Arg Asn Cys Ile Gly Gln Ala Phe Ala Met Ala Glu Met Lys Val  
 470 475 480  
 Val Leu Ala Leu Met Leu Leu His Phe Arg Phe Leu Pro Asp His  
 485 490 495  
 Thr Glu Pro Arg Arg Lys Leu Glu Leu Ile Met Arg Ala Glu Gly  
 500 505 510  
 Gly Leu Trp Leu Arg Val Glu Pro Leu Asn Val Gly Leu Gln  
 515 520

<210> 265  
 <211> 584  
 <212> DNA  
 <213> Homo sapiens

<400> 265  
 caacagaagc caagaaggaa gccgtctatc ttgtggcgat catgtataag 50  
 ctggcctcct gctgtttgct tttcacagga ttcttaaata ctctcttata 100  
 tottctcttc cttgactcca gggaaatata ctttcaactc tcagcacctc 150  
 atgaagacgc gcgcttaact ccggaggagc tagaaagagc ttcccttcta 200  
 cagatatatgc cagagatgct gggtgcagaa agaggggata ttctcaggaa 250  
 agcagactca agtaccaaca tttttaaccc aagaggaaat ttgagaaagt 300  
 ttcaggattt ctctggacaa gatcctaaca ttttactgag tcatcttttg 350  
 gccagaatct ggaaaccata caagaaacgt gagactcctg attgcttctg 400  
 gaaataactgt gtctgaagtg aaataagcat ctgttagtca gctcagaaac 450  
 acccatctta gaatatgaaa aataacacaa tgcttgattt gaaaacagtg 500  
 tggagaaaaa ctaggcaaac tacaccctgt tcattgttac ctggaaaata 550  
 aatcctctat gttttgcaca aaaaaaaaaa aaaa 584

<210> 266  
 <211> 124  
 <212> PRT  
 <213> Homo sapiens

<400> 266  
 Met Tyr Lys Leu Ala Ser Cys Cys Leu Leu Phe Thr Gly Phe Leu  
 1 5 10 15  
 Asn Pro Leu Leu Ser Leu Pro Leu Leu Asp Ser Arg Glu Ile Ser  
 20 25 30  
 Phe Gln Leu Ser Ala Pro His Glu Asp Ala Arg Leu Thr Pro Glu  
 35 40 45  
 Glu Leu Glu Arg Ala Ser Leu Leu Gln Ile Leu Pro Glu Met Leu  
 50 55 60

Gly Ala Glu Arg Gly Asp Ile Leu Arg Lys Ala Asp Ser Ser Thr  
65 70 75  
Asn Ile Phe Asn Pro Arg Gly Asn Leu Arg Lys Phe Gln Asp Phe  
80 85 90  
Ser Gly Gln Asp Pro Asn Ile Leu Leu Ser His Leu Leu Ala Arg  
95 100 105  
Ile Trp Lys Pro Tyr Lys Lys Arg Glu Thr Pro Asp Cys Phe Trp  
110 115 120  
Lys Tyr Cys Val

<210> 267  
<211> 654  
<212> DNA  
<213> Homo sapiens

<400> 267  
gaacattttt agttcccaag gaatgtacat cagccccacg gaagctaggc 50  
cacctctggg atgggggttg tggtttaaaa caaacgccag tcatcctata 100  
taaggacctg acagccacca ggcaccacct ccgccaggaa ctgcaggccc 150  
acctgtctgc aaccagctg aggccatgcc ctccccaggg accgtctgca 200  
gcctcctgct cctcggcatg ctctggctgg acttgccat ggcaggctcc 250  
agcttctga gccctgaaca ccagagagtc cagcagagaa aggagtcgaa 300  
gaagccacca gccaagctgc agccccgagc tctagcaggc tggctccgcc 350  
cggaagatgg aggtcaagca gaaggggcag aggatgaact ggaagtccgg 400  
ttcaacgccc cttttgatgt tggaatcaag ctgtcagggg ttcagtacca 450  
gcagcacagc caggccctgg ggaagtttct tcaggacatc ctctgggaag 500  
aggccaaaga ggccccagcc gacaagtgat cgcccacaag cttactcac 550  
ctctctctaa gtttagaagc gctcatctgg cttttcgctt gcttctgcag 600  
caactccac gactgttgta caagctcagg aggcgaataa atgttcaaac 650  
tgta 654

<210> 268  
<211> 117  
<212> PRT  
<213> Homo sapiens

<400> 268  
Met Pro Ser Pro Gly Thr Val Cys Ser Leu Leu Leu Leu Gly Met  
1 5 10 15  
Leu Trp Leu Asp Leu Ala Met Ala Gly Ser Ser Phe Leu Ser Pro  
20 25 30  
Glu His Gln Arg Val Gln Gln Arg Lys Glu Ser Lys Lys Pro Pro  
35 40 45

Ala Lys Leu Gln Pro Arg Ala Leu Ala Gly Trp Leu Arg Pro Glu  
50 55 60  
Asp Gly Gly Gln Ala Glu Gly Ala Glu Asp Glu Leu Glu Val Arg  
65 70 75  
Phe Asn Ala Pro Phe Asp Val Gly Ile Lys Leu Ser Gly Val Gln  
80 85 90  
Tyr Gln Gln His Ser Gln Ala Leu Gly Lys Phe Leu Gln Asp Ile  
95 100 105  
Leu Trp Glu Glu Ala Lys Glu Ala Pro Ala Asp Lys  
110 115

<210> 269  
<211> 1332  
<212> DNA  
<213> Homo sapiens

<400> 269  
cggccacagc tggcatgctc tgcctgatcg ccatcctgct gtatgtcctc 50  
gtccagtacc tcgtgaaccc cggggtgctc cgcacggacc ccagatgtca 100  
agaatatgaa cacgtggctg ctgttcctcc ccctgttccc ggtgcaggtg 150  
cagaccctga tagtcgtgat catcgggatg ctctgtctcc tgcctggactt 200  
tcttggtctg gtgcacctgg gccagctgct catcttcac atctacctga 250  
gtatgtcccc caccctaagc ccccgatccc cccaaggctg ggtggtcaga 300  
gctgctcatc ttacacctct acttgagtat gtccctaacc ctgagcccc 350  
cacgcctggg gccagagtct ttgtcccccg tgtgcgcatg tgttcagggt 400  
cagcctctcc cagaagtgag atcatggaca aaaagggcaa atcacaggaa 450  
gaaattaaat ccatgaggac ccagcaggcc cagcaagaag ctgaactcac 500  
gccgagacct gcaggagtgg tgccagggtg ttgaagtaac aagtttaaaa 550  
tgttcagaga caatggaatg gaatctatta ggcaagaaca ggacattatg 600  
aaataaggac aggtggactt caaaaaacac aagtagaaat tctaacaatg 650  
aaatatatta caggcaggtc acccactaac caaacaactg aagcgagagc 700  
tgtggtcttg cttggtctca cagtgggcac agcggtaggc ggtcagtcac 750  
gttgctgaac gacggagggt aaactcccca gccccaagaa aacctgtgtt 800  
ggaagtaaca acaacctccc tgctcctggc accagccgtt ttggtcatgg 850  
tgggccagct gcaaagcgtc ttccattctc tgggcagtgg tggccccgag 900  
gctgtggcct ctgaggggtt ttctgtggac acgggcagca gactgtgtcc 950  
aggccagccc ccaagaatgc cctgctcctg acagcttggc caaccttg 1000  
tcagggcaga gggagttggg tgggtcaggc tctgggtca cctccatctc 1050



cagagcatcc cctgcctgca gttgtggcaa gaacgccag ctcagaatga 1100  
 acacacccca ccaagagcct ccttgttcat aaccacaggt taccctacaa 1150  
 accactgtcc ccacacaacc ctggggatgt tttaaaacac acacctctaa 1200  
 cgcatatctt acagtcaactg ttgtcttgcc tgaggggtga atttttttta 1250  
 atgaaagtgc aatgaaaatc actggattaa atcctacgga cacagagctg 1300  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa 1332

<210> 270  
 <211> 142  
 <212> PRT  
 <213> Homo sapiens

<400> 270  
 Met Asn Thr Trp Leu Leu Phe Leu Pro Leu Phe Pro Val Gln Val  
 1 5 10 15  
 Gln Thr Leu Ile Val Val Ile Ile Gly Met Leu Val Leu Leu Leu  
 20 25 30  
 Asp Phe Leu Gly Leu Val His Leu Gly Gln Leu Leu Ile Phe His  
 35 40 45  
 Ile Tyr Leu Ser Met Ser Pro Thr Leu Ser Pro Arg Ser Pro Gln  
 50 55 60  
 Gly Trp Val Val Arg Ala Ala His Leu Thr Pro Leu Leu Glu Tyr  
 65 70 75  
 Val Pro Asn Pro Glu Pro Pro Thr Pro Gly Ala Arg Val Phe Val  
 80 85 90  
 Pro Arg Val Arg Met Cys Ser Gly Ser Ala Ser Pro Arg Ser Glu  
 95 100 105  
 Ile Met Asp Lys Lys Gly Lys Ser Gln Glu Glu Ile Lys Ser Met  
 110 115 120  
 Arg Thr Gln Gln Ala Gln Gln Glu Ala Glu Leu Thr Pro Arg Pro  
 125 130 135  
 Ala Gly Val Val Pro Gly Ala  
 140

<210> 271  
 <211> 1484  
 <212> DNA  
 <213> Homo sapiens

<400> 271  
 ggagtgcaga tggcatcctt cggttcttcc agacaagctg caagacgctg 50  
 accatggcca agatggagct ctggaaggcc ttctctggcc agcggacact 100  
 cctatctgcc atcctcagca tgctatcact cagcttctcc acaacatccc 150  
 tgctcagcaa ctactggttt gtgggcacac agaaggtgcc caagcccctg 200  
 tgcgagaaag gtctggcagc caagtgcttt gacatgccag tgtccctgga 250

tggagataacc aacacatcca cccaggaggt ggtacaatac aactgggaga 300  
ctggggatga ccggttctcc ttccggagct tccggagtgg catgtggcta 350  
tctctgtgagg aaactgtgga agaaccaggg gagaggtgcc gaagtttcat 400  
tgaacttaca ccaccagcca agagaggtga gaaaggacta ctggaatttg 450  
ccacgttgca aggcccatgt caccctactc tccgatttgg aggggaagcgg 500  
ttgatggaga aggcttccct cccctcccct cccttggggc tttgtggcaa 550  
aaatcctatg gttatccctg ggaacgcaga tcacctacat cggacttcaa 600  
ttcatcagct tctcctgct actaacagac ttgctactca ctgggaaccc 650  
tgctgtggg ctcaaactga gcgcctttgc tgctgtttcc tctgtcctgt 700  
caggtctcct ggggatggtg gccacatga tgtattcaca agtcttccaa 750  
gcgactgtca acttgggtcc agaagactgg agaccacatg tttggaatta 800  
tggtgtggcc ttctacatgg cctgggtctc cttcacctgc tgcattggcgt 850  
cggctgtcac caccttcaac acgtacacca ggatggtgct ggagttcaag 900  
tgcaagcata gtaagagctt caaggaaaac ccgaactgcc taccacatca 950  
ccatcagtgt ttccctcggc ggctgtcaag tgcagcccc accgtgggtc 1000  
ctttgaccag ctaccaccag tatcataatc agcccatcca ctctgtctct 1050  
gagggagtcg acttctactc cgagctgcgg aacaagggat ttcaaagagg 1100  
ggccagccag gagctgaaag aagcagttag gtcattctgta gaggaagagc 1150  
agtgttagga gttaagcggg tttggggagt aggcttgagc cctaccttac 1200  
acgtctgctg attatcaaca tgtgtttaag ccaacatccg tctcttgagc 1250  
atggttttta gaggctacga ataaggctat gaataagggt tatctttaag 1300  
tctaaggga ttctgggtg ccaactgctc cttttcctct acagctccat 1350  
cttgtttcac ccacccaca tctcacacat ccagaattcc cttctttact 1400  
gatagtttct gtgccagggt ctgggctaaa ccatggagat aaaaagaaga 1450  
gtaaaataca cttcccgacc ttaaggatct gaaa 1484

<210> 272  
<211> 285  
<212> PRT  
<213> Homo sapiens

<400> 272  
Met Ala Lys Met Glu Leu Ser Lys Ala Phe Ser Gly Gln Arg Thr  
1 5 10 15  
Leu Leu Ser Ala Ile Leu Ser Met Leu Ser Leu Ser Phe Ser Thr  
20 25 30  
Thr Ser Leu Leu Ser Asn Tyr Trp Phe Val Gly Thr Gln Lys Val

35										40					45				
Pro	Lys	Pro	Leu	Cys	Glu	Lys	Gly	Leu	Ala	Ala	Lys	Cys	Phe	Asp					
				50					55					60					
Met	Pro	Val	Ser	Leu	Asp	Gly	Asp	Thr	Asn	Thr	Ser	Thr	Gln	Glu					
				65					70					75					
Val	Val	Gln	Tyr	Asn	Trp	Glu	Thr	Gly	Asp	Asp	Arg	Phe	Ser	Phe					
				80					85					90					
Arg	Ser	Phe	Arg	Ser	Gly	Met	Trp	Leu	Ser	Cys	Glu	Glu	Thr	Val					
				95					100					105					
Glu	Glu	Pro	Gly	Glu	Arg	Cys	Arg	Ser	Phe	Ile	Glu	Leu	Thr	Pro					
				110					115					120					
Pro	Ala	Lys	Arg	Gly	Glu	Lys	Gly	Leu	Leu	Glu	Phe	Ala	Thr	Leu					
				125					130					135					
Gln	Gly	Pro	Cys	His	Pro	Thr	Leu	Arg	Phe	Gly	Gly	Lys	Arg	Leu					
				140					145					150					
Met	Glu	Lys	Ala	Ser	Leu	Pro	Ser	Pro	Pro	Leu	Gly	Leu	Cys	Gly					
				155					160					165					
Lys	Asn	Pro	Met	Val	Ile	Pro	Gly	Asn	Ala	Asp	His	Leu	His	Arg					
				170					175					180					
Thr	Ser	Ile	His	Gln	Leu	Pro	Pro	Ala	Thr	Asn	Arg	Leu	Ala	Thr					
				185					190					195					
His	Trp	Glu	Pro	Cys	Leu	Trp	Ala	Gln	Thr	Glu	Arg	Leu	Cys	Cys					
				200					205					210					
Cys	Phe	Leu	Cys	Pro	Val	Arg	Ser	Pro	Gly	Asp	Gly	Gly	Pro	His					
				215					220					225					
Asp	Val	Phe	Thr	Ser	Leu	Pro	Ser	Asp	Cys	Gln	Leu	Gly	Ser	Arg					
				230					235					240					
Arg	Leu	Glu	Thr	Thr	Cys	Leu	Glu	Leu	Trp	Leu	Gly	Leu	Leu	His					
				245					250					255					
Gly	Leu	Ala	Leu	Leu	His	Leu	Leu	His	Gly	Val	Gly	Cys	His	His					
				260					265					270					
Leu	Gln	His	Val	His	Gln	Asp	Gly	Ala	Gly	Val	Gln	Val	Gln	Ala					
				275					280					285					

<210> 273  
 <211> 1158  
 <212> DNA  
 <213> Homo sapiens

<400> 273  
 aactggaagg aaagaaagaa aggtcagctt tggcccagat gtggttaccc 50  
 cttggtctcc tgtctttatg tctttctcct cttcctattc tgtcatctcc 100  
 ctcacttaag tctcaggcct gtcagcagct cctgtggaca ttgccatccc 150  
 ctctggtagc cttcagagca aacaggacaa cctatgttat ggatgtttcc 200

accaaccagg gtagtggcat ggagcaccgt aaccatctgt gcttctgtga 250  
 tctctatgac agagccactt ctccacctct gaaatgttcc ctgctctgaa 300  
 atctggcatg agatggcaca ggtgaccacg cagaagccac cagaatcttg 350  
 cctgccctat tcctcctccc aagtctgttc tcttattgtc aacctcagca 400  
 caacaggctg gcgccaatgg cattacagag aaagcaatct gtgtggctag 450  
 tgggcagatt accatgcaag cccagggaga aatggaggag cttttagtagc 500  
 acctccctgt cagccagtat taacatgtcc ccttccccct gccccgocgt 550  
 agattcagga cattcgcccc tgtgtgccac caaaccagga ctttccccctt 600  
 ggcttggcat ccctggctct ctctgtgtac ccagcaagac gtctgttcca 650  
 gggcagtgtg gcatctttca agctccgtta ctatggcgat ggccatgatg 700  
 ttacaatccc acttgcctga ataatacaagt gggaagggga agcagagggga 750  
 aatggggcca tgtgaatgca gctgctctgt tctccctacc ctgaggaaaa 800  
 accaaagggga agcaacagga acttctgcaa ctggttttta tcggaaagat 850  
 catcctgcct gcagatgctg ttgaaggggc acaagaaatg tagctggaga 900  
 agattgatga aagtgcaggt gtgtaaggaa atagaacagt ctgctgggag 950  
 tcagacctgg aattctgatt ccaaactctt tattactttg ggaagtcact 1000  
 cagcctcccc gtagccatct ccagggtgac ggaaccaggt gtattacctg 1050  
 ctggaaccaa ggaaactaac aatgtaggtt actagtgaat accccaatgg 1100  
 tttctccaat tatgccatg ccacaaaac aataaaacaa aattctctaa 1150  
 cactgaaa 1158

<210> 274  
 <211> 86  
 <212> PRT  
 <213> Homo sapiens

<400> 274  
 Met Trp Leu Pro Leu Gly Leu Leu Ser Leu Cys Leu Ser Pro Leu 15  
 1 5 10  
 Pro Ile Leu Ser Ser Pro Ser Leu Lys Ser Gln Ala Cys Gln Gln 30  
 20 25 30  
 Leu Leu Trp Thr Leu Pro Ser Pro Leu Val Ala Phe Arg Ala Asn 45  
 35 40 45  
 Arg Thr Thr Tyr Val Met Asp Val Ser Thr Asn Gln Gly Ser Gly 60  
 50 55 60  
 Met Glu His Arg Asn His Leu Cys Phe Cys Asp Leu Tyr Asp Arg 75  
 65 70 75  
 Ala Thr Ser Pro Pro Leu Lys Cys Ser Leu Leu 85  
 80 85

<210> 275  
 <211> 2694  
 <212> DNA  
 <213> Homo sapiens

<400> 275  
 gtagcgcgtc ttgggtctcc cggctgccgc tgctgccgcc gccgcctcgg 50  
 gtcgtggagc caggagcgac gtcaccgccca tggcaggcat caaagctttg 100  
 attagtttgt cctttggagg agcaatcgga ctgatgtttt tgatgcttgg 150  
 atgtgccctt ccaatataca acaaatactg gccctctttt gttctatttt 200  
 ttacatcctt ttcacctatt ccatactgca tagcaagaag attagtggat 250  
 gatacagatg ctatgagtaa cgcttgtaag gaacttgcca tctttcttac 300  
 aacgggcatt gtcgtgtcag cttttggact ccctattgta ttigccagag 350  
 cacatctgat tgagtgggga gcttgtgcac ttgttctcac aggaaacaca 400  
 gtcacttttg caactatact aggccttttc ttggctcttg gaagcaatga 450  
 cgacttcagc tggcagcagt ggtgaaaaga aattactgaa ctattgtcaa 500  
 atggacttcc tgtcatttgt tggccattca cgcacacagg agatggggca 550  
 gttaatgctg aatggtatag caagcctctt ggggggtattt taggtgctcc 600  
 cttctcactt ttattgtaag catactattt tcacagagac ttgctgaagg 650  
 attaaaagga ttttctcttt tggaaaagct tgactgattt cacacttata 700  
 tatagtatgc tttttgtggt gtcctgctga atttaaatat ttatgtgttt 750  
 ttctgttag gttgattttt tttggaatca atatgcaatg ttaaactt 800  
 ttttaagtga atcatttgca ttggttagga attcagaatt ccgccggctc 850  
 tattactggt caagtacatc ttttctctta aaattattta gcctccatta 900  
 ttacaaaaaa ttataaaaat aagttttcag tcagtcagga tgacatcact 950  
 cccaatgtta tgcagacata cagacggttg gcatacgtta tagactgtat 1000  
 actcagtgca aatatagctg catTTataacc tcagaggggc caagtgttaa 1050  
 tgcccatgcc ctccgttaag ggttggttgg tttactggta gacagatgtt 1100  
 ttgtggattg aaaattattt tatggaattg ctacagagga gtgcttttct 1150  
 tctcaattgt tagaagaatt tatgttaaac ttttaaggtaa ggggtgaaaa 1200  
 acatttttga gataagggtt ttatttatgt ttattattgt tagagtgagt 1250  
 tgcaatgtgg gaagaaatga cattgaaatt ccagtttttg aatcctgttt 1300  
 ctattttataa gtgaaatttg tgatctccta tcaacctttc atgttttacc 1350  
 ctgttaaaat ggacatacat ggaaccacta ctgatgaggg acagttgtat 1400  
 gtttgcata tatatgccag aaaaccttcc tctgcttctt ccttttgact 1450

tatttggtat gttgtatata ttacataaaa taacttttca aatatagttt 1500  
aataacactt agaagtgttt acttacctgg aaaataattg ctatgccgta 1550  
cattcagagt gccccctccc ctgcaaggcc ttgccatgat taacaagtaa 1600  
cttggttagtc ttacagataa ttcattgcatt aacagtttaa gatttagacc 1650  
atggtaatag tagttcttat tctctaaggt tatatcatat gtaattttaa 1700  
agtattttta agacaagttt cctgtatacc totgaactgt tttgattttg 1750  
agttcatcat gatagatctg ctgtttcctt ataaaaggca tttgttgtgt 1800  
gagttaatgc aaagtagcca agtccagcta tatagcagct tcagaaacat 1850  
acctgaccaa aaaattccca gtaaccaggc atgatcaatt tatagtggtc 1900  
gtttacatct aataattatc aggacttttt tcaggagtgg gttataaaaa 1950  
cattcaagtt ggtctgacag tattttgtta aggatatttg tttgtatggt 2000  
tattcagtat acttacataa aaattatttc gccatcagcc aaaactcagt 2050  
aatcatgaca gctgtctgtt gttttatgaa gtttatttct caagaaaatg 2100  
ggaataaatt tgggatttgt tcagcttttt tactaaagat gcctaaagcc 2150  
acagggtttta ttgcctaact taagccatga cttttagata tgagatgacg 2200  
ggaagcagga cgaaatatcg gcgtgtggct ggagccttcc cactggaggc 2250  
tgaaagtggc ttgtggtatt ataatgttca gatttcaaga ggaaggtgca 2300  
ggtacacatg agttagagag ctgggtgagac agttgggaac tctttgtgct 2350  
tgtgatctac tggacttttt ttttgcagga agtgcattct ctggtccttc 2400  
cctattttct gttctggatg tcagtgcagt gcactgctac tgttttatcc 2450  
acttgccac agactttttc taacagctgc gtattatttc tatatactaa 2500  
ttgcattggc agcatttgtt ctttgacctt gtatactagc ttgacatagt 2550  
gctgtctctg atttctagga tagttacttg agatatgaat tttccataga 2600  
atatgcactg atacaacatt accattcttc tatggaaaga aaacttttga 2650  
tgatgaaaca ataaagattt taaatatcta ttttaaaaaa aaaa 2694

<210> 276

<211> 131

<212> PRT

<213> Homo sapiens

<400> 276

Met	Ala	Gly	Ile	Lys	Ala	Leu	Ile	Ser	Leu	Ser	Phe	Gly	Gly	Ala
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Ile	Gly	Leu	Met	Phe	Leu	Met	Leu	Gly	Cys	Ala	Leu	Pro	Ile	Tyr
			20						25					30

Asn Lys Tyr Trp Pro Leu Phe Val Leu Phe Phe Tyr Ile Leu Ser

	35		40		45
Pro Ile Pro Tyr Cys Ile Ala Arg Arg Leu Val Asp Asp Thr Asp	50		55		60
Ala Met Ser Asn Ala Cys Lys Glu Leu Ala Ile Phe Leu Thr Thr	65		70		75
Gly Ile Val Val Ser Ala Phe Gly Leu Pro Ile Val Phe Ala Arg	80		85		90
Ala His Leu Ile Glu Trp Gly Ala Cys Ala Leu Val Leu Thr Gly	95		100		105
Asn Thr Val Ile Phe Ala Thr Ile Leu Gly Phe Phe Leu Val Phe	110		115		120
Gly Ser Asn Asp Asp Phe Ser Trp Gln Gln Trp	125		130		

<210> 277  
 <211> 4104  
 <212> DNA  
 <213> Homo sapiens

<400> 277  
 cccacgcgtc cgcccacgcg tccgcccacg cgtccgccc cgcgtccgcc 50  
 cacgcgtccg cccacgcgtc cgcccacgcg tccggtgcaa gctcgcgcgcg 100  
 cacactgcct ggtggaggga aggagcccgg gcgcctctcg ccgctccccg 150  
 cgccgcgcgtc cgcacctccc caccgcccgc cgcccgccgc ccgccgccccg 200  
 caaagcatga gtgagcccgc tctctgcagc tgcccggggc gcgaatggca 250  
 ggctgtttcc gcggagtaaa aggtggcgcc ggtcagtggc cgtttccaat 300  
 gacggacatt aaccagactg tcagatcctg gggagtcgcg agccccgagt 350  
 ttggagtttt ttccccccac aacgtcacag tccgaactgc agagggaaag 400  
 gaaggcggca ggaaggcgaa gctcgggctc cggcacgtag ttgggaaact 450  
 tgccgggtcct agaagtcgcc tccccgcctt gccggccgcc cttgcagccc 500  
 cgagccgagc agcaaagtga gacattgtgc gcctgccaga tccgccggcc 550  
 gcggaccggg gctgcctcgg aaacacagag gggctcttct tcgccctgca 600  
 tataattagc ctgcacacaa agggagcagc tgaatggagg ttgtcactct 650  
 ctggaaaagg atttctgacc gagcgcttcc aatggacatt ctccagtctc 700  
 tctggaaaga ttctcgctaa tggatttcct gctgctcggc ctctgtctat 750  
 actggctgct gaggaggccc tcgggggtgg tcttgtgtct gctggggggc 800  
 tgctttcaga tgctgcccgc cgcccccagc gggtgcccgc agctgtgccg 850  
 gtgcgagggg cggtgctgt actgcgaggc gctcaacctc accgaggcgc 900  
 cccacaacct gtccggcctg ctgggcttgt ccctgcgcta caacagcctc 950





tttgaagatc tgtccatatt caggaatctg agagtgtaaa aaaggtggcc 2600  
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 cctgcccacg attaaacatc atgtatgtag aagatcttaa gtccatacgc 2700  
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 agcaaagatg gaccatagaa agctatgttc ttactttgtg tgtgtgtctg 2800  
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 attatcttta agcttcaaga aacttgctct gaccctcta agcaaaactac 3050  
 taagcattta aaagagaatc taatttttaa aggtgtagca cctttttttt 3100  
 tattcttccc acagaggtg ctaatctcat tatgtgtgc tatctgaaaa 3150  
 gaacttaagg ccacaattca cgtctcgtcc tgggcattgt gatggattga 3200  
 ccctccattt gcagtacctt cccagctgat taaagttcag cagtggattt 3250  
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<210> 278  
 <211> 522  
 <212> PRT  
 <213> Homo sapiens

<400> 278

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				20					25					30	
Met	Leu	Pro	Ala	Ala	Pro	Ser	Gly	Cys	Pro	Gln	Leu	Cys	Arg	Cys	
				35					40					45	
Glu	Gly	Arg	Leu	Leu	Tyr	Cys	Glu	Ala	Leu	Asn	Leu	Thr	Glu	Ala	
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Pro	His	Asn	Leu	Ser	Gly	Leu	Leu	Gly	Leu	Ser	Leu	Arg	Tyr	Asn	
				65					70					75	
Ser	Leu	Ser	Glu	Leu	Arg	Ala	Gly	Gln	Phe	Thr	Gly	Leu	Met	Gln	
				80					85					90	
Leu	Thr	Trp	Leu	Tyr	Leu	Asp	His	Asn	His	Ile	Cys	Ser	Val	Gln	
				95					100					105	
Gly	Asp	Ala	Phe	Gln	Lys	Leu	Arg	Arg	Val	Lys	Glu	Leu	Thr	Leu	
				110					115					120	
Ser	Ser	Asn	Gln	Ile	Thr	Gln	Leu	Pro	Asn	Thr	Thr	Phe	Arg	Pro	
				125					130					135	
Met	Pro	Asn	Leu	Arg	Ser	Val	Asp	Leu	Ser	Tyr	Asn	Lys	Leu	Gln	
				140					145					150	
Ala	Leu	Ala	Pro	Asp	Leu	Phe	His	Gly	Leu	Arg	Lys	Leu	Thr	Thr	
				155					160					165	
Leu	His	Met	Arg	Ala	Asn	Ala	Ile	Gln	Phe	Val	Pro	Val	Arg	Ile	
				170					175					180	
Phe	Gln	Asp	Cys	Arg	Ser	Leu	Lys	Phe	Leu	Asp	Ile	Gly	Tyr	Asn	
				185					190					195	
Gln	Leu	Lys	Ser	Leu	Ala	Arg	Asn	Ser	Phe	Ala	Gly	Leu	Phe	Lys	
				200					205					210	
Leu	Thr	Glu	Leu	His	Leu	Glu	His	Asn	Asp	Leu	Val	Lys	Val	Asn	
				215					220					225	
Phe	Ala	His	Phe	Pro	Arg	Leu	Ile	Ser	Leu	His	Ser	Leu	Cys	Leu	
				230					235					240	
Arg	Arg	Asn	Lys	Val	Ala	Ile	Val	Val	Ser	Ser	Leu	Asp	Trp	Val	
				245					250					255	
Trp	Asn	Leu	Glu	Lys	Met	Asp	Leu	Ser	Gly	Asn	Glu	Ile	Glu	Tyr	
				260					265					270	
Met	Glu	Pro	His	Val	Phe	Glu	Thr	Val	Pro	His	Leu	Gln	Ser	Leu	
				275					280					285	

109777-14436560

Gln Leu Asp Ser Asn Arg Leu Thr Tyr Ile Glu Pro Arg Ile Leu  
290 295 300

Asn Ser Trp Lys Ser Leu Thr Ser Ile Thr Leu Ala Gly Asn Leu  
305 310 315

Trp Asp Cys Gly Arg Asn Val Cys Ala Leu Ala Ser Trp Leu Ser  
320 325 330

Asn Phe Gln Gly Arg Tyr Asp Gly Asn Leu Gln Cys Ala Ser Pro  
335 340 345

Glu Tyr Ala Gln Gly Glu Asp Val Leu Asp Ala Val Tyr Ala Phe  
350 355 360

His Leu Cys Glu Asp Gly Ala Glu Pro Thr Ser Gly His Leu Leu  
365 370 375

Ser Ala Val Thr Asn Arg Ser Asp Leu Gly Pro Pro Ala Ser Ser  
380 385 390

Ala Thr Thr Leu Ala Asp Gly Gly Glu Gly Gln His Asp Gly Thr  
395 400 405

Phe Glu Pro Ala Thr Val Ala Leu Pro Gly Gly Glu His Ala Glu  
410 415 420

Asn Ala Val Gln Ile His Lys Val Val Thr Gly Thr Met Ala Leu  
425 430 435

Ile Phe Ser Phe Leu Ile Val Val Leu Val Leu Tyr Val Ser Trp  
440 445 450

Lys Cys Phe Pro Ala Ser Leu Arg Gln Leu Arg Gln Cys Phe Val  
455 460 465

Thr Gln Arg Arg Lys Gln Lys Gln Lys Gln Thr Met His Gln Met  
470 475 480

Ala Ala Met Ser Ala Gln Glu Tyr Tyr Val Asp Tyr Lys Pro Asn  
485 490 495

His Ile Glu Gly Ala Leu Val Ile Ile Asn Glu Tyr Gly Ser Cys  
500 505 510

Thr Cys His Gln Gln Pro Ala Arg Glu Cys Glu Val  
515 520

<210> 279

<211> 46

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 279

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<210> 280

<211> 709

<212> DNA

<213> Homo sapiens

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 cacggacttc gacgtcgag ccaactggag ccagaaccgg accccgtgcg 150  
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 cgtcctgggt tcaggagccg gattcggcgt ctcagacgtg ggctcgcacc 300  
 tggactgtgg cgcgggcgaa cctgccgtct tccgcgactc tgaccgcttc 350  
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 cttcttcgtg gacgccgagc gcgtgccctg ccgccacgac gacgtcttct 450  
 ttccgcctag tgctccttc cgcgtggggc tcggccctgg cgctagcccc 500  
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 ggccgggcgc gctgagcgtg ggccccgagg actgcgcgga cccgtcgggc 650  
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 ccagcccct 709

<210> 281  
 <211> 229  
 <212> PRT  
 <213> Homo sapiens

<400> 281  
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 20 25 30  
 Asp Val Ala Ala Asn Trp Ser Gln Asn Arg Thr Pro Cys Ala Gly  
 35 40 45  
 Gly Ala Val Glu Phe Pro Ala Asp Lys Met Val Ser Val Leu Val  
 50 55 60  
 Gln Glu Gly His Ala Val Ser Asp Met Leu Leu Pro Leu Asp Gly  
 65 70 75  
 Glu Leu Val Leu Ala Ser Gly Ala Gly Phe Gly Val Ser Asp Val  
 80 85 90  
 Gly Ser His Leu Asp Cys Gly Ala Gly Glu Pro Ala Val Phe Arg  
 95 100 105  
 Asp Ser Asp Arg Phe Ser Trp His Asp Pro His Leu Trp Arg Ser  
 110 115 120  
 Gly Asp Glu Ala Pro Gly Leu Phe Phe Val Asp Ala Glu Arg Val  
 125 130 135

Pro Cys Arg His Asp Asp Val Phe Phe Pro Pro Ser Ala Ser Phe  
140 145 150

Arg Val Gly Leu Gly Pro Gly Ala Ser Pro Val Arg Val Arg Ser  
155 160 165

Ile Ser Ala Leu Gly Arg Thr Phe Thr Arg Asp Glu Asp Leu Ala  
170 175 180

Val Phe Leu Ala Ser Arg Ala Gly Arg Leu Arg Phe His Gly Pro  
185 190 195

Gly Ala Leu Ser Val Gly Pro Glu Asp Cys Ala Asp Pro Ser Gly  
200 205 210

Cys Val Cys Gly Asn Ala Glu Ala Gln Pro Trp Ile Cys Ala Ala  
215 220 225

Leu Leu Gln Pro

<210> 282  
<211> 644  
<212> DNA  
<213> Homo sapiens

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cttgacttta totttctgcat tttgcagtct ttggcattga cgtggtacag 200  
cctttccttc ataccatttg caagggatgc tgtgaagaag tgttttgccg 250  
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tggacagaag ctggtggaca gttttgtaac tatcttcgaa acctctgtct 350  
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cagtagcaca ggatgagaag tgggttctgt atcttgtgga gtggaatctt 500  
cctcatgtac ctgtttcctc tctggatgtt gtccactga attcccatga 550  
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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 644

<210> 283  
<211> 77  
<212> PRT  
<213> Homo sapiens

<400> 283  
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Cys Ser Ala Phe Trp Trp His Asn Lys Gly Leu Ala Leu Ile Phe					
	35		40		45
Cys Ile Leu Gln Ser Leu Ala Leu Thr Trp Tyr Ser Leu Ser Phe					
	50		55		60
Ile Pro Phe Ala Arg Asp Ala Val Lys Lys Cys Phe Ala Val Cys					
	65		70		75
Leu Ala					

<210> 284  
 <211> 2623  
 <212> DNA  
 <213> Homo sapiens

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 gagagaaaat tagggggaga aaggacagag agagcaacta ccatccatag 200  
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 cgaaatttat cttggtgtcc ttcatacttg ctgcaactgag tctttcaacc 300  
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 aagtgatcat ggaatgacgc agtgcctga ggaaagggtta atagaacttg 1000  
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<211> 477  
 <212> PRT  
 <213> Homo sapiens

<400> 285

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				20					25					30	
Leu	Leu	Val	Ser	Phe	Asp	Gly	Phe	Arg	Trp	Asp	Tyr	Leu	Tyr	Lys	
				35					40					45	
Val	Pro	Thr	Pro	His	Phe	His	Tyr	Ile	Met	Lys	Tyr	Gly	Val	His	
				50					55					60	
Val	Lys	Gln	Val	Thr	Asn	Val	Phe	Ile	Thr	Lys	Thr	Tyr	Pro	Asn	
				65					70					75	
His	Tyr	Thr	Leu	Val	Thr	Gly	Leu	Phe	Ala	Glu	Asn	His	Gly	Ile	
				80					85					90	
Val	Ala	Asn	Asp	Met	Phe	Asp	Pro	Ile	Arg	Asn	Lys	Ser	Phe	Ser	
				95					100					105	
Leu	Asp	His	Met	Asn	Ile	Tyr	Asp	Ser	Lys	Phe	Trp	Glu	Glu	Ala	
				110					115					120	
Thr	Pro	Ile	Trp	Ile	Thr	Asn	Gln	Arg	Ala	Gly	His	Thr	Ser	Gly	
				125					130					135	
Ala	Ala	Met	Trp	Pro	Gly	Thr	Asp	Val	Lys	Ile	His	Lys	Arg	Phe	
				140					145					150	
Pro	Thr	His	Tyr	Met	Pro	Tyr	Asn	Glu	Ser	Val	Ser	Phe	Glu	Asp	
				155					160					165	
Arg	Val	Ala	Lys	Ile	Val	Glu	Trp	Phe	Thr	Ser	Lys	Glu	Pro	Ile	
				170					175					180	
Asn	Leu	Gly	Leu	Leu	Tyr	Trp	Glu	Asp	Pro	Asp	Asp	Met	Gly	His	
				185					190					195	
His	Leu	Gly	Pro	Asp	Ser	Pro	Leu	Met	Gly	Pro	Val	Ile	Ser	Asp	
				200					205					210	
Ile	Asp	Lys	Lys	Leu	Gly	Tyr	Leu	Ile	Gln	Met	Leu	Lys	Lys	Ala	
				215					220					225	
Lys	Leu	Trp	Asn	Thr	Leu	Asn	Leu	Ile	Ile	Thr	Ser	Asp	His	Gly	
				230					235					240	
Met	Thr	Gln	Cys	Ser	Glu	Glu	Arg	Leu	Ile	Glu	Leu	Asp	Gln	Tyr	
				245					250					255	
Leu	Asp	Lys	Asp	His	Tyr	Thr	Leu	Ile	Asp	Gln	Ser	Pro	Val	Ala	
				260					265					270	
Ala	Ile	Leu	Pro	Lys	Glu	Gly	Lys	Phe	Asp	Glu	Val	Tyr	Glu	Ala	
				275					280					285	
Leu	Thr	His	Ala	His	Pro	Asn	Leu	Thr	Val	Tyr	Lys	Lys	Glu	Asp	

TOGETHER



				290					295					300
Val	Pro	Glu	Arg	Trp 305	His	Tyr	Lys	Tyr	Asn 310	Ser	Arg	Ile	Gln	Pro 315
Ile	Ile	Ala	Val	Ala 320	Asp	Glu	Gly	Trp	His 325	Ile	Leu	Gln	Asn	Lys 330
Ser	Asp	Asp	Phe	Leu 335	Leu	Gly	Asn	His	Gly 340	Tyr	Asp	Asn	Ala	Leu 345
Ala	Asp	Met	His	Pro 350	Ile	Phe	Leu	Ala	His 355	Gly	Pro	Ala	Phe	Arg 360
Lys	Asn	Phe	Ser	Lys 365	Glu	Ala	Met	Asn	Ser 370	Thr	Asp	Leu	Tyr	Pro 375
Leu	Leu	Cys	His	Leu 380	Leu	Asn	Ile	Thr	Ala 385	Met	Pro	His	Asn	Gly 390
Ser	Phe	Trp	Asn	Val 395	Gln	Asp	Leu	Leu	Asn 400	Ser	Ala	Met	Pro	Arg 405
Val	Val	Pro	Tyr	Thr 410	Gln	Ser	Thr	Ile	Leu 415	Leu	Pro	Gly	Ser	Val 420
Lys	Pro	Ala	Glu	Tyr 425	Asp	Gln	Glu	Gly	Ser 430	Tyr	Pro	Tyr	Phe	Ile 435
Gly	Val	Ser	Leu	Gly 440	Ser	Ile	Ile	Val	Ile 445	Val	Phe	Phe	Val	Ile 450
Phe	Ile	Lys	His	Leu 455	Ile	His	Ser	Gln	Ile 460	Pro	Ala	Leu	Gln	Asp 465
Met	His	Ala	Glu	Ile 470	Ala	Gln	Pro	Leu	Leu 475	Gln	Ala			

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<210> 286
<211> 1337
<212> DNA
<213> Homo sapiens
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tcacacagcc aaaggaggca gagccagaac tcacaaccag atccagaggc 200
aacaggggaca tggccacctg ggacgaaaag gcagtcaccc gcaggggcaa 250
ggtggctccc gctgagagga tgagcaagtt cttaaaggcac ttcacggtcg 300
tgggagacga ctaccatgcc tggaacatca actacaagaa atgggagaat 350
gaagaggagg aggaggagga ggagcagcca ccaccacac cagtctcagg 400
cgaggaaggc agagctgcag cccctgacgt tgcccctgcc cctggccccg 450
caccagggc ccccttgac ttcaggggca tgttgaggaa actgttcagc 500
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tcccacaggt ttcaggtcat catcatctgc ttggtggttc tggatgccct 550  
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 agaataacta tgctgccatg gtattccact acatgagcat caccatcttg 650  
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 ttctttcacc acaagtttga gatcctggat gcccgtcgtg gtggtggtct 750  
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 aagagagaga aggaagcagg ctggcatgtt cactgggctg gtgttacgac 1150  
 agagaacctg acagtcactg gccagttatc acttcagatt acaaatacaca 1200  
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 aagatattct gaaaatatga cagaatttga caaataaaaag cataaacgtg 1300  
 taaaaaaaa aaaaaaaaa aaaaaaaaa aaaaaaa 1337

<210> 287

<211> 255

<212> PRT

<213> Homo sapiens

<400> 287

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Val	Gly	Asp	Asp	Tyr	His	Ala	Trp	Asn	Ile	Asn	Tyr	Lys	Lys	Trp	35	40	45	
Glu	Asn	Glu	Glu	Glu	Glu	Glu	Glu	Glu	Gln	Pro	Pro	Pro	Thr	50	55	60		
Pro	Val	Ser	Gly	Glu	Glu	Gly	Arg	Ala	Ala	Ala	Pro	Asp	Val	Ala	65	70	75	
Pro	Ala	Pro	Gly	Pro	Ala	Pro	Arg	Ala	Pro	Leu	Asp	Phe	Arg	Gly	80	85	90	
Met	Leu	Arg	Lys	Leu	Phe	Ser	Ser	His	Arg	Phe	Gln	Val	Ile	Ile	95	100	105	
Ile	Cys	Leu	Val	Val	Leu	Asp	Ala	Leu	Leu	Val	Leu	Ala	Glu	Leu	110	115	120	

Ile	Leu	Asp	Leu	Lys	Ile	Ile	Gln	Pro	Asp	Lys	Asn	Asn	Tyr	Ala
				125					130					135
Ala	Met	Val	Phe	His	Tyr	Met	Ser	Ile	Thr	Ile	Leu	Val	Phe	Phe
				140					145					150
Met	Met	Glu	Ile	Ile	Phe	Lys	Leu	Phe	Val	Phe	Arg	Leu	Ser	Ser
				155					160					165
Phe	Thr	Thr	Ser	Leu	Arg	Ser	Trp	Met	Pro	Val	Val	Val	Val	Val
				170					175					180
Ser	Phe	Ile	Leu	Asp	Ile	Val	Leu	Leu	Phe	Gln	Glu	His	Gln	Phe
				185					190					195
Glu	Ala	Leu	Gly	Leu	Leu	Ile	Leu	Leu	Arg	Leu	Trp	Arg	Val	Ala
				200					205					210
Arg	Ile	Ile	Asn	Gly	Ile	Ile	Ile	Ser	Val	Lys	Thr	Arg	Ser	Glu
				215					220					225
Arg	Gln	Leu	Leu	Arg	Leu	Lys	Gln	Met	Asn	Val	Gln	Leu	Ala	Ala
				230					235					240
Lys	Ile	Gln	His	Leu	Glu	Phe	Ser	Cys	Ser	Glu	Lys	Pro	Leu	Asp
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<210> 288  
 <211> 3334  
 <212> DNA  
 <213> Homo sapiens

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 <211> 469  
 <212> PRT  
 <213> Homo sapiens

<400> 289  
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 Thr Glu Phe Gln Tyr Phe Glu Ser Lys Gly Leu Pro Ala Glu Leu  
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 Lys Ser Ile Phe Lys Leu Ser Val Phe Ile Pro Ser Gln Glu Phe  
 35 40 45  
 Ser Thr Tyr Arg Gln Trp Lys Gln Lys Ile Val Gln Ala Gly Asp  
 50 55 60  
 Lys Asp Leu Asp Gly Gln Leu Asp Phe Glu Glu Phe Val His Tyr  
 65 70 75  
 Leu Gln Asp His Glu Lys Lys Leu Arg Leu Val Phe Lys Ile Leu  
 80 85 90

Asp	Lys	Lys	Asn	Asp	Gly	Arg	Ile	Asp	Ala	Gln	Glu	Ile	Met	Gln	
				95					100					105	
Ser	Leu	Arg	Asp	Leu	Gly	Val	Lys	Ile	Ser	Glu	Gln	Gln	Ala	Glu	
				110					115					120	
Lys	Ile	Leu	Lys	Ser	Met	Asp	Lys	Asn	Gly	Thr	Met	Thr	Ile	Asp	
				125					130					135	
Trp	Asn	Glu	Trp	Arg	Asp	Tyr	His	Leu	Leu	His	Pro	Val	Glu	Asn	
				140					145					150	
Ile	Pro	Glu	Ile	Ile	Leu	Tyr	Trp	Lys	His	Ser	Thr	Ile	Phe	Asp	
				155					160					165	
Val	Gly	Glu	Asn	Leu	Thr	Val	Pro	Asp	Glu	Phe	Thr	Val	Glu	Glu	
				170					175					180	
Arg	Gln	Thr	Gly	Met	Trp	Trp	Arg	His	Leu	Val	Ala	Gly	Gly	Gly	
				185					190					195	
Ala	Gly	Ala	Val	Ser	Arg	Thr	Cys	Thr	Ala	Pro	Leu	Asp	Arg	Leu	
				200					205					210	
Lys	Val	Leu	Met	Gln	Val	His	Ala	Ser	Arg	Ser	Asn	Asn	Met	Gly	
				215					220					225	
Ile	Val	Gly	Gly	Phe	Thr	Gln	Met	Ile	Arg	Glu	Gly	Gly	Ala	Arg	
				230					235					240	
Ser	Leu	Trp	Arg	Gly	Asn	Gly	Ile	Asn	Val	Leu	Lys	Ile	Ala	Pro	
				245					250					255	
Glu	Ser	Ala	Ile	Lys	Phe	Met	Ala	Tyr	Glu	Gln	Ile	Lys	Arg	Leu	
				260					265					270	
Val	Gly	Ser	Asp	Gln	Glu	Thr	Leu	Arg	Ile	His	Glu	Arg	Leu	Val	
				275					280					285	
Ala	Gly	Ser	Leu	Ala	Gly	Ala	Ile	Ala	Gln	Ser	Ser	Ile	Tyr	Pro	
				290					295					300	
Met	Glu	Val	Leu	Lys	Thr	Arg	Met	Ala	Leu	Arg	Lys	Thr	Gly	Gln	
				305					310					315	
Tyr	Ser	Gly	Met	Leu	Asp	Cys	Ala	Arg	Arg	Ile	Leu	Ala	Arg	Glu	
				320					325					330	
Gly	Val	Ala	Ala	Phe	Tyr	Lys	Gly	Tyr	Val	Pro	Asn	Met	Leu	Gly	
				335					340					345	
Ile	Ile	Pro	Tyr	Ala	Gly	Ile	Asp	Leu	Ala	Val	Tyr	Glu	Thr	Leu	
				350					355					360	
Lys	Asn	Ala	Trp	Leu	Gln	His	Tyr	Ala	Val	Asn	Ser	Ala	Asp	Pro	
				365					370					375	
Gly	Val	Phe	Val	Leu	Leu	Ala	Cys	Gly	Thr	Met	Ser	Ser	Thr	Cys	
				380					385					390	
Gly	Gln	Leu	Ala	Ser	Tyr	Pro	Leu	Ala	Leu	Val	Arg	Thr	Arg	Met	
				395					400					405	

Gln	Ala	Gln	Ala	Ser	Ile	Glu	Gly	Ala	Pro	Glu	Val	Thr	Met	Ser
				410					415					420
Ser	Leu	Phe	Lys	His	Ile	Leu	Arg	Thr	Glu	Gly	Ala	Phe	Gly	Leu
				425					430					435
Tyr	Arg	Gly	Leu	Ala	Pro	Asn	Phe	Met	Lys	Val	Ile	Pro	Ala	Val
				440					445					450
Ser	Ile	Ser	Tyr	Val	Val	Tyr	Glu	Asn	Leu	Lys	Ile	Thr	Leu	Gly
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Val Gln Ser Arg

<210> 290  
 <211> 1658  
 <212> DNA  
 <213> Homo sapiens

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 gcatcatcat tattctggct ggagcaattg cactcatcat tggctttggt 150  
 atttcaggga gacactccat cacagtcact actgtcgccct cagctgggaa 200  
 cattggggag gatggaatcc tgagctgcac ttttgaacct gacatcaaac 250  
 tttctgatat cgtgatacaa tggctgaagg aaggtgtttt aggcttggtc 300  
 catgagttca aagaaggcaa agatgagctg tcggagcagg atgaaatggt 350  
 cagaggccgg acagcagtgt ttgctgatca agtgatagtt ggcaatgcct 400  
 ctttgcggtt gaaaaacgtg caactcacag atgctggcac ctacaaatgt 450  
 tatatcatca cttctaaagg caagggaat gctaaccttg agtataaaac 500  
 tggagccttc agcatgccgg aagtgaatgt ggactataat gccagctcag 550  
 agaccttgcg gtgtgaggct ccccgatggt tccccagcc cacagtggtc 600  
 tgggcatccc aagttgacca gggagccaac ttctcggaag tctccaatac 650  
 cagctttgag ctgaactctg agaatgtgac catgaagggt gtgtctgtgc 700  
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 ctaaaataat gtgccttggc cacaaaaaag catgcaaagt cattgttaca 950  
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 aattgactgc cacttcgcaa ctcaggggcg gctgcatttt agtaatgggt 1450  
 caaatgattc actttttatg atgcttccaa aggtgccttg gcttctcttc 1500  
 ccaactgaca aatgccaaag ttgagaaaaa tgatcataat tttagcataa 1550  
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 aaaaaaaaa 1658

<210> 291  
 <211> 282  
 <212> PRT  
 <213> Homo sapiens

<400> 291  
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 20 25 30  
 Ile Ser Gly Arg His Ser Ile Thr Val Thr Thr Val Ala Ser Ala  
 35 40 45  
 Gly Asn Ile Gly Glu Asp Gly Ile Leu Ser Cys Thr Phe Glu Pro  
 50 55 60  
 Asp Ile Lys Leu Ser Asp Ile Val Ile Gln Trp Leu Lys Glu Gly  
 65 70 75  
 Val Leu Gly Leu Val His Glu Phe Lys Glu Gly Lys Asp Glu Leu  
 80 85 90  
 Ser Glu Gln Asp Glu Met Phe Arg Gly Arg Thr Ala Val Phe Ala  
 95 100 105  
 Asp Gln Val Ile Val Gly Asn Ala Ser Leu Arg Leu Lys Asn Val  
 110 115 120  
 Gln Leu Thr Asp Ala Gly Thr Tyr Lys Cys Tyr Ile Ile Thr Ser  
 125 130 135  
 Lys Gly Lys Gly Asn Ala Asn Leu Glu Tyr Lys Thr Gly Ala Phe  
 140 145 150  
 Ser Met Pro Glu Val Asn Val Asp Tyr Asn Ala Ser Ser Glu Thr







Phe	Pro	Leu	Gln	Leu	Phe	Cys	Phe	Leu	Val	Ala	Ile	Arg	Val	Pro
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Phe	Pro	Trp	Thr	Val	Trp	Arg	Lys	Thr	Glu	Ala	Gly	Val	Trp	Asp
			170						175					180

<210> 294  
 <211> 1164  
 <212> DNA  
 <213> Homo sapiens

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 ctgcccagta agtgggagtc acaggtctcc aggcaatgcc gacagctgcc 1100  
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 aaaaaaaaaa aaaa 1164

<210> 295  
 <211> 237  
 <212> PRT

<213> Homo sapiens

<400> 295

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20 25 30  
Ser Cys Val Asn Ser Ile Ala Ser Glu Cys Pro Ser His Ala Asn  
35 40 45  
Thr Ser Cys Ile Ser Ser Ser Ala Ser Ser Ser Leu Glu Thr Pro  
50 55 60  
Val Arg Leu Tyr Gln Asn Met Phe Cys Ser Ala Glu Asn Cys Ser  
65 70 75  
Glu Glu Thr His Ile Thr Ala Phe Thr Val His Val Ser Ala Glu  
80 85 90  
Glu His Phe His Phe Val Ser Gln Cys Cys Gln Gly Lys Glu Cys  
95 100 105  
Ser Asn Thr Ser Asp Ala Leu Asp Pro Pro Leu Lys Asn Val Ser  
110 115 120  
Ser Asn Ala Glu Cys Pro Ala Cys Tyr Glu Ser Asn Gly Thr Ser  
125 130 135  
Cys Arg Gly Lys Pro Trp Lys Cys Tyr Glu Glu Glu Gln Cys Val  
140 145 150  
Phe Leu Val Ala Glu Leu Lys Asn Asp Ile Glu Ser Lys Ser Leu  
155 160 165  
Val Leu Lys Gly Cys Ser Asn Val Ser Asn Ala Thr Cys Gln Phe  
170 175 180  
Leu Ser Gly Glu Asn Lys Thr Leu Gly Gly Val Ile Phe Arg Lys  
185 190 195  
Phe Glu Cys Ala Asn Val Asn Ser Leu Thr Pro Thr Ser Ala Pro  
200 205 210  
Thr Thr Ser His Asn Val Gly Ser Lys Ala Ser Leu Tyr Leu Leu  
215 220 225  
Ala Leu Ala Ser Leu Leu Leu Arg Gly Leu Leu Pro  
230 235

<210> 296

<211> 1245

<212> DNA

<213> Homo sapiens

<400> 296

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ccagcccat ggtccccgcc gccggcgcgc tgctgtgggt cctgctgctg 150

aatctgggtc cccgggcggc gggggcccaa ggctgaccc agactccgac 200  
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accggagcac cggccggact ggtcttcccc ggaagacaag gataatccta 300  
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gccggaaagg atagcaccag cagagagctt ccagtgcca ctccaatac 500  
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cccagaccgg tggccgtcac cctcaccac agccatgcca tctcctgagg 700  
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gacacaagtc tctgtactga caccaactgt gcctctcaga gcaccaccag 950  
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atgaggagat gtcagtatct caacctctct tgccttttca atcctagcac 1200  
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<210> 297

<211> 341

<212> PRT

<213> Homo sapiens

<400> 297

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Leu	Gly	Pro	Arg	Ala	Ala	Gly	Ala	Gln	Gly	Leu	Thr	Gln	Thr	Pro
			20						25					30
Thr	Glu	Met	Gln	Arg	Val	Ser	Leu	Arg	Phe	Gly	Gly	Pro	Met	Thr
			35						40					45
Arg	Ser	Tyr	Arg	Ser	Thr	Ala	Arg	Thr	Gly	Leu	Pro	Arg	Lys	Thr
			50						55					60
Arg	Ile	Ile	Leu	Glu	Asp	Glu	Asn	Asp	Ala	Met	Ala	Asp	Ala	Asp

65										70					75				
Arg	Leu	Ala	Gly	Pro	Ala	Ala	Ala	Glu	Leu	Leu	Leu	Ala	Ala	Thr	Val				
				80					85						90				
Ser	Thr	Gly	Phe	Ser	Arg	Ser	Ser	Ala	Ile	Asn	Glu	Glu	Asp	Gly					
				95					100					105					
Ser	Ser	Glu	Glu	Gly	Val	Val	Ile	Asn	Ala	Gly	Lys	Asp	Ser	Thr					
				110					115					120					
Ser	Arg	Glu	Leu	Pro	Ser	Ala	Thr	Pro	Asn	Thr	Ala	Gly	Ser	Ser					
				125					130					135					
Ser	Thr	Arg	Phe	Ile	Ala	Asn	Ser	Gln	Glu	Pro	Glu	Ile	Arg	Leu					
				140					145					150					
Thr	Ser	Ser	Leu	Pro	Arg	Ser	Pro	Gly	Arg	Ser	Thr	Glu	Asp	Leu					
				155					160					165					
Pro	Gly	Ser	Gln	Ala	Thr	Leu	Ser	Gln	Trp	Ser	Thr	Pro	Gly	Ser					
				170					175					180					
Thr	Pro	Ser	Arg	Trp	Pro	Ser	Pro	Ser	Pro	Thr	Ala	Met	Pro	Ser					
				185					190					195					
Pro	Glu	Asp	Leu	Arg	Leu	Val	Leu	Met	Pro	Trp	Gly	Pro	Trp	His					
				200					205					210					
Cys	His	Cys	Lys	Ser	Gly	Thr	Met	Ser	Arg	Ser	Arg	Ser	Gly	Lys					
				215					220					225					
Leu	His	Gly	Leu	Ser	Gly	Arg	Leu	Arg	Val	Gly	Ala	Leu	Ser	Gln					
				230					235					240					
Leu	Arg	Thr	Glu	His	Lys	Pro	Cys	Thr	Tyr	Gln	Gln	Cys	Pro	Cys					
				245					250					255					
Asn	Arg	Leu	Arg	Glu	Glu	Cys	Pro	Leu	Asp	Thr	Ser	Leu	Cys	Thr					
				260					265					270					
Asp	Thr	Asn	Cys	Ala	Ser	Gln	Ser	Thr	Thr	Ser	Thr	Arg	Thr	Thr					
				275					280					285					
Thr	Thr	Pro	Phe	Pro	Thr	Ile	His	Leu	Arg	Ser	Ser	Pro	Ser	Leu					
				290					295					300					
Pro	Pro	Ala	Ser	Pro	Cys	Pro	Ala	Leu	Ala	Phe	Trp	Lys	Arg	Val					
				305					310					315					
Arg	Ile	Gly	Leu	Glu	Asp	Ile	Trp	Asn	Ser	Leu	Ser	Ser	Val	Phe					
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Thr	Glu	Met	Gln	Pro	Ile	Asp	Arg	Asn	Gln	Arg									
				335					340										

<210> 298

<211> 2692

<212> DNA

<213> Homo sapiens

<400> 298

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<210> 299  
 <211> 320  
 <212> PRT  
 <213> Homo sapiens

<400> 299  
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                     20                    25                    30  
 Asp Cys Val Leu Gln Cys Glu Glu Gln Asn Cys Ser Gly Gly Ala  
                     35                    40                    45  
 Leu Asn His Phe Arg Ser Arg Gln Pro Ile Tyr Met Ser Leu Ala  
                     50                    55                    60  
 Gly Trp Thr Cys Arg Asp Asp Cys Lys Tyr Glu Cys Met Trp Val  
                     65                    70                    75



Thr Val Gly Leu Tyr Leu Gln Glu Gly His Lys Val Pro Gln Phe  
80 85 90

His Gly Lys Trp Pro Phe Ser Arg Phe Leu Phe Phe Gln Glu Pro  
95 100 105

Ala Ser Ala Val Ala Ser Phe Leu Asn Gly Leu Ala Ser Leu Val  
110 115 120

Met Leu Cys Arg Tyr Arg Thr Phe Val Pro Ala Ser Ser Pro Met  
125 130 135

Tyr His Thr Cys Val Ala Phe Ala Trp Val Ser Leu Asn Ala Trp  
140 145 150

Phe Trp Ser Thr Val Phe His Thr Arg Asp Thr Asp Leu Thr Glu  
155 160 165

Lys Met Asp Tyr Phe Cys Ala Ser Thr Val Ile Leu His Ser Ile  
170 175 180

Tyr Leu Cys Cys Val Arg Thr Val Gly Leu Gln His Pro Ala Val  
185 190 195

Val Ser Ala Phe Arg Ala Leu Leu Leu Leu Met Leu Thr Val His  
200 205 210

Val Ser Tyr Leu Ser Leu Ile Arg Phe Asp Tyr Gly Tyr Asn Leu  
215 220 225

Val Ala Asn Val Ala Ile Gly Leu Val Asn Val Val Trp Trp Leu  
230 235 240

Ala Trp Cys Leu Trp Asn Gln Arg Arg Leu Pro His Val Arg Lys  
245 250 255

Cys Val Val Val Val Leu Leu Leu Gln Gly Leu Ser Leu Leu Glu  
260 265 270

Leu Leu Asp Phe Pro Pro Leu Phe Trp Val Leu Asp Ala His Ala  
275 280 285

Ile Trp His Ile Ser Thr Ile Pro Val His Val Leu Phe Phe Ser  
290 295 300

Phe Leu Glu Asp Asp Ser Leu Tyr Leu Leu Lys Glu Ser Glu Asp  
305 310 315

Lys Phe Lys Leu Asp  
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<210> 300

<211> 1674

<212> DNA

<213> Homo sapiens

<400> 300

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<211> 461  
 <212> PRT  
 <213> Homo sapiens

<400> 301

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Ser	His	Gln	Asn	Leu	Lys	Glu	Phe	Ala	Leu	Thr	Asn	Pro	Glu	Lys	35	40	45	
Ser	Ser	Thr	Lys	Glu	Thr	Glu	Arg	Lys	Glu	Thr	Lys	Ala	Glu	Glu	50	55	60	
Glu	Leu	Asp	Ala	Glu	Val	Leu	Glu	Val	Phe	His	Pro	Thr	His	Glu	65	70	75	
Trp	Gln	Ala	Leu	Gln	Pro	Gly	Gln	Ala	Val	Pro	Ala	Gly	Ser	His	80	85	90	
Val	Arg	Leu	Asn	Leu	Gln	Thr	Gly	Glu	Arg	Glu	Ala	Lys	Leu	Gln	95	100	105	
Tyr	Glu	Asp	Lys	Phe	Arg	Asn	Asn	Leu	Lys	Gly	Lys	Arg	Leu	Asp	110	115	120	
Ile	Asn	Thr	Asn	Thr	Tyr	Thr	Ser	Gln	Asp	Leu	Lys	Ser	Ala	Leu	125	130	135	
Ala	Lys	Phe	Lys	Glu	Gly	Ala	Glu	Met	Glu	Ser	Ser	Lys	Glu	Asp	140	145	150	
Lys	Ala	Arg	Gln	Ala	Glu	Val	Lys	Arg	Leu	Phe	Arg	Pro	Ile	Glu	155	160	165	
Glu	Leu	Lys	Lys	Asp	Phe	Asp	Glu	Leu	Asn	Val	Val	Ile	Glu	Thr	170	175	180	
Asp	Met	Gln	Ile	Met	Val	Arg	Leu	Ile	Asn	Lys	Phe	Asn	Ser	Ser	185	190	195	
Ser	Ser	Ser	Leu	Glu	Glu	Lys	Ile	Ala	Ala	Leu	Phe	Asp	Leu	Glu	200	205	210	
Tyr	Tyr	Val	His	Gln	Met	Asp	Asn	Ala	Gln	Asp	Leu	Leu	Ser	Phe	215	220	225	
Gly	Gly	Leu	Gln	Val	Val	Ile	Asn	Gly	Leu	Asn	Ser	Thr	Glu	Pro	230	235	240	
Leu	Val	Lys	Glu	Tyr	Ala	Ala	Phe	Val	Leu	Gly	Ala	Ala	Phe	Ser	245	250	255	
Ser	Asn	Pro	Lys	Val	Gln	Val	Glu	Ala	Ile	Glu	Gly	Gly	Ala	Leu	260	265	270	
Gln	Lys	Leu	Leu	Val	Ile	Leu	Ala	Thr	Glu	Gln	Pro	Leu	Thr	Ala	275	280	285	
Lys	Lys	Lys	Val	Leu	Phe	Ala	Leu	Cys	Ser	Leu	Leu	Arg	His	Phe				



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<210> 303  
 <211> 247  
 <212> PRT  
 <213> Homo sapiens

<400> 303

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Arg	Val	Ile	Ile	Leu	Val	Ala	Gly	Ala	Phe	Phe	Trp	Leu	Val	Ser	35	40	45	
Leu	Leu	Leu	Ala	Ser	Val	Val	Trp	Phe	Ile	Leu	Val	His	Val	Thr	50	55	60	
Asp	Arg	Ser	Asp	Ala	Arg	Leu	Gln	Tyr	Gly	Leu	Leu	Ile	Phe	Gly	65	70	75	
Ala	Ala	Val	Ser	Val	Leu	Leu	Gln	Glu	Val	Phe	Arg	Phe	Ala	Tyr	80	85	90	
Tyr	Lys	Leu	Leu	Lys	Lys	Ala	Asp	Glu	Gly	Leu	Ala	Ser	Leu	Ser	95	100	105	
Glu	Asp	Gly	Arg	Ser	Pro	Ile	Ser	Ile	Arg	Gln	Met	Ala	Tyr	Val	110	115	120	
Ser	Gly	Leu	Ser	Phe	Gly	Ile	Ile	Ser	Gly	Val	Phe	Ser	Val	Ile	125	130	135	
Asn	Ile	Leu	Ala	Asp	Ala	Leu	Gly	Pro	Gly	Val	Val	Gly	Ile	His	140	145	150	
Gly	Asp	Ser	Pro	Tyr	Tyr	Phe	Leu	Thr	Ser	Ala	Phe	Leu	Thr	Ala	155	160	165	
Ala	Ile	Ile	Leu	Leu	His	Thr	Phe	Trp	Gly	Val	Val	Phe	Phe	Asp	170	175	180	
Ala	Cys	Glu	Arg	Arg	Arg	Tyr	Trp	Ala	Leu	Gly	Leu	Val	Val	Gly	185	190	195	
Ser	His	Leu	Leu	Thr	Ser	Gly	Leu	Thr	Phe	Leu	Asn	Pro	Trp	Tyr	200	205	210	
Glu	Ala	Ser	Leu	Leu	Pro	Ile	Tyr	Ala	Val	Thr	Val	Ser	Met	Gly	215	220	225	
Leu	Trp	Ala	Phe	Ile	Thr	Ala	Gly	Gly	Ser	Leu	Arg	Ser	Ile	Gln	230	235	240	
Arg	Ser	Leu	Leu	Cys	Lys	Asp	245											

<210> 304  
 <211> 240  
 <212> DNA  
 <213> Homo sapiens

<220>

<221> unsure  
<222> 108, 123, 126, 154, 198, 206, 217  
<223> unknown base

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ccttcggnat catcagtggg gtnttntctg ttatcaatat tttggctgat 150  
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<210> 305  
<211> 378  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 58, 94, 132, 186, 191, 220, 240, 248, 280, 311, 332  
<223> unknown base

<400> 305  
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ctgcttaaga aggcagatga ggggttagca tngctgagtg aggacggaag 150  
atcaccatt tccatccgcc agatggccta tgttnttggg ntttccttcg 200  
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gggccagggtg tgggtgggat ccatggagan tcaccctatt aattcctgaa 300  
ttcagccttt ntgacagcag ccattatcct gntccatacc ttttggggag 350  
ttgtgttttt tgatgcctgt gagaggag 378

<210> 306  
<211> 655  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 1, 22, 129, 133, 184  
<223> unknown base

<400> 306  
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ctgtcctggt caggccccca ccccccttcc cacntgacca gccatggggg 200  
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 gtttctggtc tctccttcgg tatcatcagt ggtgtcttct ctgttatcaa 600  
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 ccccc 655

<210> 307  
 <211> 650  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 52, 89, 128  
 <223> unknown base

<400> 307  
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 tgtttctggt ctctccttcg gtatcatcag tgggtgtctt tctgttatca 600  
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<210> 308  
 <211> 1570  
 <212> DNA  
 <213> Homo sapiens

<400> 308  
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ctgagaagtg gaaaaaaaaa 1570

<210> 309



<210> 310  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 310  
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<210> 311  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 311  
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<210> 312  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

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<210> 313  
 <211> 3010  
 <212> DNA  
 <213> Homo sapiens

<400> 313  
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 ccggccgcgc gacaagccgc agcggccgag ctgcggttac gtgctgtgca 100  
 ccgtgctgct ggccctggct gtgctgctgg ctgtagctgt caccggtgcc 150  
 gtgctcttcc tgaaccacgc ccacgcgccg ggcacggcgc cccacctgt 200  
 cgtcagcact ggggctgcca gcgccaacag cgccctggtc actgtggaaa 250  
 gggcggacag ctgcacctc agcatcctca ttgaccgcgc ctgccccgac 300  
 ctcaccgaca gcttcgcacg cctggagagc gccaggcct cgggtgctgca 350  
 ggcgctgaca gagcaccagg ccagccacg gctggtgggc gaccaggagc 400  
 aggagctgct ggacacgctg gccgaccagc tgccccggct gctggcccga 450  
 gcctcagagc tgcagacgga gtgcatgggg ctgcggaagg ggcattggac 500  
 gctgggccag ggcctcagcg ccctgcagag tgagcagggc cgcctcatcc 550

agcttctctc tgagagccag ggccacatgg ctacactggg gaactccgtc 600  
 agcgacatcc tggatgccct gcagagggac cgggggctgg gccggccccg 650  
 caacaaggcc gaccttcaga gagcgctgc ccggggaacc cggccccggg 700  
 gctgtgccac tggctcccgg ccccgagact gtctggacgt cctcctaagc 750  
 ggacagcagg acgatggcgt ctactctgtc ttccccaccc actaccggc 800  
 cggcttcag gtgtactgtg acatgcgcac ggacggcggc ggctggacgg 850  
 tgtttcagcg ccgggaggac ggctccgtga acttcttcgg gggctgggac 900  
 gcgtaccgag acggctttgg caggctcacc ggggagcact ggctagggct 950  
 caagaggatc cagccctga ccacacaggc tgcctacgag ctgcacgtgg 1000  
 acctggagga ctttgagaat ggcacggcct atgcccgtc cgggagcttc 1050  
 ggcgtgggct tgttctccgt ggaccctgag gaagacgggt acccgctcac 1100  
 cgtggctgac tattccggca ctgcaggcga ctccctcctg aagcacagcg 1150  
 gcatgagggt caccaccaag gaccgtgaca gcgaccattc agagaacaac 1200  
 tgtgccgcct tctaccgcg tgctgggtgg taccgcaact gccacacgtc 1250  
 caacctcaat gggcagtacc tgcgcggtgc gcacgcctcc tatgcccagc 1300  
 gcgtggagtg gtccctcctg accggctggc agtactcact caagttctct 1350  
 gagatgaaga tccggccggc ccgggaggac cgctagactg gtgcaccttg 1400  
 tccttgggcc tgctgggtccc tgcgccccca tccccgacct cacctcactc 1450  
 tttcgtgaat gttctccacc cacctgtgcc tggcggacct actctccagt 1500  
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 agagaacca cctctcccc aagggcctca gcctggctgt gggctgggtg 1950  
 gcccatcct accaggccct gaggtcagga tggggagctg ctgcctttgg 2000  
 ggaccacgc tccaaggctg agaccagttc cctggaggcc acccaccctg 2050  
 tgccccggca ggctgggggt ctgcagtcct cttacctgct gtgcccacct 2100  
 gctctctgtc tcaaagagg cccaacccat cccccacca gctcccggcc 2150

gtcctcctac ctggggcagc cggggctgcc atcccatttc tctgcctct 2200  
 ggaaggtggg tggggccctg caccgtgggg ctggactgog ctaatgggaa 2250  
 gctcttggtt ttctgggctg gggcctaggc agggctggga tgaggcttgt 2300  
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 aggagggcct tgggggtgat gacccttcc ctgaggtggc tgtctccatg 2400  
 aggaggccaa cccttgccat tgaccgtggc cacctggacc caggccaggc 2450  
 ccggcccggc gagtgggtcaa gggacaggga ccacctcacc gggcaaattg 2500  
 ggtcgggggg actggggcac cagaccaggc accacctgga cactttcttg 2550  
 ttgaatcctc ccaacaccca gcacgtgtc atccccactc cttgtgtgca 2600  
 cacatgcaga ggtgagaccc gcaggctccc aggaccagca gccacaaggg 2650  
 cagggttgga gccgggtcct cagctgtctg ctcagcagcc ctggaccgcg 2700  
 gtgcgttacg tcaggcccag atgcaggggc gcttttccaa ggctcctga 2750  
 tgggggcctc cgaaagggct ggagtcagcc ttggggagct gcctagcagc 2800  
 ctctcctcgg gcaggagggg aggtggcttc ctccaaagga caccgatgg 2850  
 caggtgccta ggggggtgtg ggttcggtc tcccttcccc tccactgaa 2900  
 gtttgtgctt aaaaaacaat aaatttgact tggcaccact gggggttggt 2950  
 gggagaggcc gtgtgacctg gctctctgtc ccagtgcac caggcatcc 3000  
 acatgcgcag 3010

<210> 314  
 <211> 461  
 <212> PRT  
 <213> Homo sapiens

<400> 314  
 Met Val Asn Asp Arg Trp Lys Thr Met Gly Gly Ala Ala Gln Leu  
     1                    5                    10                    15  
 Glu Asp Arg Pro Arg Asp Lys Pro Gln Arg Pro Ser Cys Gly Tyr  
                     20                    25                    30  
 Val Leu Cys Thr Val Leu Leu Ala Leu Ala Val Leu Leu Ala Val  
                     35                    40                    45  
 Ala Val Thr Gly Ala Val Leu Phe Leu Asn His Ala His Ala Pro  
                     50                    55                    60  
 Gly Thr Ala Pro Pro Pro Val Val Ser Thr Gly Ala Ala Ser Ala  
                     65                    70                    75  
 Asn Ser Ala Leu Val Thr Val Glu Arg Ala Asp Ser Ser His Leu  
                     80                    85                    90  
 Ser Ile Leu Ile Asp Pro Arg Cys Pro Asp Leu Thr Asp Ser Phe  
                     95                    100                    105

Ala Arg Leu Glu Ser	Ala Gln Ala Ser	Val Leu Gln Ala Leu Thr	110	115	120
Glu His Gln Ala Gln	Pro Arg Leu Val	Gly Asp Gln Glu Gln Glu	125	130	135
Leu Leu Asp Thr Leu	Ala Asp Gln Leu	Pro Arg Leu Leu Ala Arg	140	145	150
Ala Ser Glu Leu Gln	Thr Glu Cys Met	Gly Leu Arg Lys Gly His	155	160	165
Gly Thr Leu Gly Gln	Gly Leu Ser Ala	Leu Gln Ser Glu Gln Gly	170	175	180
Arg Leu Ile Gln Leu	Leu Ser Glu Ser	Gln Gly His Met Ala His	185	190	195
Leu Val Asn Ser Val	Ser Asp Ile Leu	Asp Ala Leu Gln Arg Asp	200	205	210
Arg Gly Leu Gly Arg	Pro Arg Asn Lys	Ala Asp Leu Gln Arg Ala	215	220	225
Pro Ala Arg Gly Thr	Arg Pro Arg Gly	Cys Ala Thr Gly Ser Arg	230	235	240
Pro Arg Asp Cys Leu	Asp Val Leu Leu	Ser Gly Gln Gln Asp Asp	245	250	255
Gly Val Tyr Ser Val	Phe Pro Thr His	Tyr Pro Ala Gly Phe Gln	260	265	270
Val Tyr Cys Asp Met	Arg Thr Asp Gly	Gly Gly Gly Trp Thr Val Phe	275	280	285
Gln Arg Arg Glu Asp	Gly Ser Val Asn	Phe Phe Arg Gly Trp Asp	290	295	300
Ala Tyr Arg Asp Gly	Phe Gly Arg Leu	Thr Gly Glu His Trp Leu	305	310	315
Gly Leu Lys Arg Ile	His Ala Leu Thr	Thr Gln Ala Ala Tyr Glu	320	325	330
Leu His Val Asp Leu	Glu Asp Phe Glu	Asn Gly Thr Ala Tyr Ala	335	340	345
Arg Tyr Gly Ser Phe	Gly Val Gly Leu	Phe Ser Val Asp Pro Glu	350	355	360
Glu Asp Gly Tyr Pro	Leu Thr Val Ala	Asp Tyr Ser Gly Thr Ala	365	370	375
Gly Asp Ser Leu Leu	Lys His Ser Gly	Met Arg Phe Thr Thr Lys	380	385	390
Asp Arg Asp Ser Asp	His Ser Glu Asn	Asn Cys Ala Ala Phe Tyr	395	400	405
Arg Gly Ala Trp Trp	Tyr Arg Asn Cys	His Thr Ser Asn Leu Asn	410	415	420

Gly Gln Tyr Leu Arg Gly Ala His Ala Ser Tyr Ala Asp Gly Val  
425 430 435

Glu Trp Ser Ser Trp Thr Gly Trp Gln Tyr Ser Leu Lys Phe Ser  
440 445 450

Glu Met Lys Ile Arg Pro Val Arg Glu Asp Arg  
455 460

<210> 315  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 315  
cacacgtcca acctcaatgg gcag 24

<210> 316  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 316  
gaccagcagg gccaaaggaca agg 23

<210> 317  
<211> 44  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 317  
gttctctgag atgaagatcc ggccgggtccg ggagtaccgc ttag 44

<210> 318  
<211> 1841  
<212> DNA  
<213> Homo sapiens

<400> 318  
gcagtcagag acttcccctg cccctcgctg ggaaagaaca ttaggaatgc 50  
cttttagtg cttgcttct gaactagctc acagtagccc ggcgggcccag 100  
ggcaatccga ccacatttca ctctcaccgc ttaggaatc cagatgcagg 150  
ccaagtacag cagcagcagg gacatgctgg atgatgatgg ggacaccacc 200  
atgagcctgc attctcaagc ctctgccaca actcggcatc cagagccccg 250  
gcgacagag cacagggctc cctcttcaac gtggcgacca gtggccctga 300  
ccctgctgac tttgtgcttg gtgctgctga tagggctggc agccctgggg 350  
cttttgtttt ttcagtacta ccagctctcc aatactggtc aagacaccat 400

ttctcaaatg gaagaaagat taggaaatac gtcccaagag ttgcaatctc 450  
 ttcaagtcca gaatataaag cttgcaggaa gtctgcagca tgtgggtgaa 500  
 aaactctgtc gtgagctgta taacaaagct ggagcacaca ggtgcagccc 550  
 ttgtacagaa caatggaaat ggcatggaga caattgctac cagttctata 600  
 aagacagcaa aagttgggag gactgtaaat atttctgcct tagtgaaaac 650  
 tctaccatgc tgaagataaa caaacaagaa gacctggaat ttgccgcgtc 700  
 tcagagctac tctgagtttt tctactctta ttggacaggg cttttgcgcc 750  
 ctgacagtgg caaggcctgg ctgtggatgg atggaacccc tttcacttct 800  
 gaactgttcc atattataat agatgtcacc agcccaagaa gcagagactg 850  
 tgtggccatc ctcaatggga tgatcttctc aaaggactgc aaagaattga 900  
 agcgtttgtgt ctgtgagaga agggcaggaa tggatgaagcc agagagcctc 950  
 catgtccccc ctgaaacatt aggcgaaggt gactgattcg ccctctgcaa 1000  
 ctacaaatag cagagtggag caggcgggtgc caaagcaagg gctagttgag 1050  
 acattgggaa atggaacata atcaggaaag actatctctc tgactagtag 1100  
 aaaatgggtt ctctgttttc ctgttcagga tcaccagcat ttctgagctt 1150  
 gggtttatgc acgtatttaa cagtcacaag aagtcttatt tacatgccac 1200  
 caaccaacct cagaaacca taatgtcatc tgccttcttg gcttagagat 1250  
 aaotttttagc tctctttctt ctcaatgtct aatatcacct ccctgttttc 1300  
 atgtcttctt tacacttggt ggaataagaa actttttgaa gtagaggaaa 1350  
 tacattgagg taacatcctt ttctctgaca gtcaagtagt ccatcagaaa 1400  
 ttggcagtca cttcccagat tgtaccagca aatacacaag gaattctttt 1450  
 tgtttgtttc agttcatact agtcccttcc caatccatca gtaaagaccc 1500  
 catctgcctt gtccatgccc tttcccaaca gggatgtcac ttgatatgag 1550  
 aatctcaaat ctcaatgcct tataagcatt ccttctgtg tccattaaga 1600  
 ctctgataat tgtctccctt ccataggaat ttctcccagg aaagaaatat 1650  
 atccccatct cggtttcata tcagaactac cgtccccgat attcccttca 1700  
 gagagattaa agaccagaaa aaagtggagc tcttcatctg cacctgtaat 1750  
 agtttcagtt cctattttct tccattgacc catatttata cttttcaggt 1800  
 actgaagatt taataataat aaatgtaaat actgtgaaaa a 1841

<210> 319  
 <211> 280  
 <212> PRT  
 <213> Homo sapiens



<400> 319

Met Gln Ala Lys Tyr Ser Ser Thr Arg Asp Met Leu Asp Asp Asp  
1 5 10 15  
Gly Asp Thr Thr Met Ser Leu His Ser Gln Ala Ser Ala Thr Thr  
20 25 30  
Arg His Pro Glu Pro Arg Arg Thr Glu His Arg Ala Pro Ser Ser  
35 40 45  
Thr Trp Arg Pro Val Ala Leu Thr Leu Leu Thr Leu Cys Leu Val  
50 55 60  
Leu Leu Ile Gly Leu Ala Ala Leu Gly Leu Leu Phe Phe Gln Tyr  
65 70 75  
Tyr Gln Leu Ser Asn Thr Gly Gln Asp Thr Ile Ser Gln Met Glu  
80 85 90  
Glu Arg Leu Gly Asn Thr Ser Gln Glu Leu Gln Ser Leu Gln Val  
95 100 105  
Gln Asn Ile Lys Leu Ala Gly Ser Leu Gln His Val Ala Glu Lys  
110 115 120  
Leu Cys Arg Glu Leu Tyr Asn Lys Ala Gly Ala His Arg Cys Ser  
125 130 135  
Pro Cys Thr Glu Gln Trp Lys Trp His Gly Asp Asn Cys Tyr Gln  
140 145 150  
Phe Tyr Lys Asp Ser Lys Ser Trp Glu Asp Cys Lys Tyr Phe Cys  
155 160 165  
Leu Ser Glu Asn Ser Thr Met Leu Lys Ile Asn Lys Gln Glu Asp  
170 175 180  
Leu Glu Phe Ala Ala Ser Gln Ser Tyr Ser Glu Phe Phe Tyr Ser  
185 190 195  
Tyr Trp Thr Gly Leu Leu Arg Pro Asp Ser Gly Lys Ala Trp Leu  
200 205 210  
Trp Met Asp Gly Thr Pro Phe Thr Ser Glu Leu Phe His Ile Ile  
215 220 225  
Ile Asp Val Thr Ser Pro Arg Ser Arg Asp Cys Val Ala Ile Leu  
230 235 240  
Asn Gly Met Ile Phe Ser Lys Asp Cys Lys Glu Leu Lys Arg Cys  
245 250 255  
Val Cys Glu Arg Arg Ala Gly Met Val Lys Pro Glu Ser Leu His  
260 265 270  
Val Pro Pro Glu Thr Leu Gly Glu Gly Asp  
275 280

<210> 320

<211> 468

<212> DNA

<213> Homo sapiens

<220>  
<221> unsure  
<222> 59, 95, 149, 331, 364, 438, 446  
<223> unknown base

<400> 320  
aattttcacc gctgtaggaa tccagatgca ggccaagtac agcagcacga 50  
gggacatgnt ggatgatgat gggacaccac catgagcctg cattntcaag 100  
cttttgccac aattcggcat ccagagcccc ggcgcacaga gcacagggnt 150  
cctttttcaa cgtggcgacc agtggccctg accctgctga ctttgtgctt 200  
ggtgctgctg atagggctgg cagccctggg gcttttgttt tttcagtact 250  
accagctctc caatactggg caagacacca tttctcaaat ggaagaaaga 300  
ttaggaaata cgtcccaaga gttgcaattt nttcaagtcc agaataataa 350  
gcttgacaga agtntgcagc atgtggctga aaaactctgt cgtgagctgt 400  
ataacaaagc tggaggaact ttgaaggagg gcaaagtntc ctcatntact 450  
atacacacac cacttccc 468

<210> 321  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 321  
atgcaggcca agtacagcag cac 23

<210> 322  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 322  
catgctgacg acttcctgca agc 23

<210> 323  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 323  
ccacacagtc tctgcttctt ggg 23

<210> 324  
<211> 40  
<212> DNA  
<213> Artificial Sequence

Variable	Mean	SD	Min	Max
Age	34.5	10.2	18	65
Gender	0.45	0.50	0	1
Marital status	0.60	0.49	0	1
Education	12.5	1.5	9	16
Income	1500	500	500	3000
Health status	0.70	0.46	0	1
Smoking status	0.30	0.46	0	1
Alcohol consumption	0.20	0.40	0	1
Exercise frequency	0.10	0.30	0	1
Stress level	0.50	0.50	0	1
Sleep quality	0.60	0.49	0	1
Work satisfaction	0.40	0.50	0	1
Life satisfaction	0.50	0.50	0	1
Depression score	10.0	10.0	0	40
Anxiety score	15.0	15.0	0	60
Quality of life score	70.0	10.0	50	100

<223> Synthetic oligonucleotide probe

<400> 324

atgctggatg atgatgggga caccaccatg agcctgcatt 40

<210> 325

<211> 2988

<212> DNA

<213> Homo sapiens

<400> 325

gccgagcgca agaaccctgc gcagcccaga gcagctgctg gaggggaatc 50

gagggcgggc tccggggatt cggctcgggc cgctggctct gctctgcggg 100

gagggagcgg gcccgccgc ggggcccgag ccctccgat cggccccctc 150

cccggtcccg cccctcgga gactcctctg gctgctctgg gggttcgccg 200

gggccgggga cccgcggtcc gggcgccatg cgggcatcgc tgctgctgtc 250

ggtgctgcgg cccgcagggc ccgtggccgt gggcatctcc ctgggcttca 300

ccctgagcct gctcagcgtc acctgggtgg aggagccgtg cggcccaggc 350

ccgccccaac ctggagactc tgagctgccg ccgcgcggca acaccaacgc 400

ggcgcgccgg cccaactcgg tgcagcccgg agcggagcgc gagaagcccg 450

gggccggcga aggcgccggg gagaattggg agccgcgcgt cttgccctac 500

caccctgcac agcccggcc a ggccgccaaa aaggccgtca ggacccgcta 550

catcagcacg gagctgggca tcaggcagag gctgctggtg gcggtgctga 600

cctctcagac cacgctgccc acgctgggcg tggccgtgaa ccgcacgctg 650

gggcaccggc tggagcgtgt ggtgttcttg acgggcgcac ggggccgccg 700

ggccccacct ggcatggcag tggtgacgct gggcgaggag cgaccattg 750

gacacctgca cctggcgctg cgccacctgc tggagcagca cggcgacgac 800

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cctggcacgc ctaactggcc acctcagcct ggcctcggcc gccacactgt 900

acctggggcgg gccccaggac ttcatcggcg gagagcccac ccccggccgc 950

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actgcgcccc cacctggaag gctgccgcaa cgacatcgtc agtgcgcgcc 105

ctgacgagtg gctgggtcgc tgcattctcg atgccaccgg ggtgggctgc 110

actggtgacc acgagggggt gcactatagc catctggagc tgagccctgg 115

ggagccagtg caggaggggg accctcattt ccgaagtgcc ctgacagccc 120

accctgtgcg tgacctgtg cacatgtacc agctgcacaa agctttcgcc 125

cgagctgaac tggaaacgcac gtaccaggag atccaggagt tacagtggga 130



gagctgagga gggggcatct cccaacttct cccttttggga ccctgccgaa 2950

gctccctgcc ttttaataaac tggccaagtg tggaaaaa 2988

<210> 326

<211> 775

<212> PRT

<213> Homo sapiens

<400> 326

Met	Arg	Ala	Ser	Leu	Leu	Leu	Ser	Val	Leu	Arg	Pro	Ala	Gly	Pro	
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Val	Ala	Val	Gly	Ile	Ser	Leu	Gly	Phe	Thr	Leu	Ser	Leu	Leu	Ser	
				20					25					30	
Val	Thr	Trp	Val	Glu	Glu	Pro	Cys	Gly	Pro	Gly	Pro	Pro	Gln	Pro	
				35					40					45	
Gly	Asp	Ser	Glu	Leu	Pro	Pro	Arg	Gly	Asn	Thr	Asn	Ala	Ala	Arg	
				50					55					60	
Arg	Pro	Asn	Ser	Val	Gln	Pro	Gly	Ala	Glu	Arg	Glu	Lys	Pro	Gly	
				65					70					75	
Ala	Gly	Glu	Gly	Ala	Gly	Glu	Asn	Trp	Glu	Pro	Arg	Val	Leu	Pro	
				80					85					90	
Tyr	His	Pro	Ala	Gln	Pro	Gly	Gln	Ala	Ala	Lys	Lys	Ala	Val	Arg	
				95					100					105	
Thr	Arg	Tyr	Ile	Ser	Thr	Glu	Leu	Gly	Ile	Arg	Gln	Arg	Leu	Leu	
				110					115					120	
Val	Ala	Val	Leu	Thr	Ser	Gln	Thr	Thr	Leu	Pro	Thr	Leu	Gly	Val	
				125					130					135	
Ala	Val	Asn	Arg	Thr	Leu	Gly	His	Arg	Leu	Glu	Arg	Val	Val	Phe	
				140					145					150	
Leu	Thr	Gly	Ala	Arg	Gly	Arg	Arg	Ala	Pro	Pro	Gly	Met	Ala	Val	
				155					160					165	
Val	Thr	Leu	Gly	Glu	Glu	Arg	Pro	Ile	Gly	His	Leu	His	Leu	Ala	
				170					175					180	
Leu	Arg	His	Leu	Leu	Glu	Gln	His	Gly	Asp	Asp	Phe	Asp	Trp	Phe	
				185					190					195	
Phe	Leu	Val	Pro	Asp	Thr	Thr	Tyr	Thr	Glu	Ala	His	Gly	Leu	Ala	
				200					205					210	
Arg	Leu	Thr	Gly	His	Leu	Ser	Leu	Ala	Ser	Ala	Ala	His	Leu	Tyr	
				215					220					225	
Leu	Gly	Arg	Pro	Gln	Asp	Phe	Ile	Gly	Gly	Glu	Pro	Thr	Pro	Gly	
				230					235					240	
Arg	Tyr	Cys	His	Gly	Gly	Phe	Gly	Val	Leu	Leu	Ser	Arg	Met	Leu	
				245					250					255	
Leu	Gln	Gln	Leu	Arg	Pro	His	Leu	Glu	Gly	Cys	Arg	Asn	Asp	Ile	
				260					265					270	

Val Ser Ala Arg	Pro Asp Glu Trp Leu	Gly Arg Cys Ile Leu	Asp
	275	280	285
Ala Thr Gly Val	Gly Cys Thr Gly Asp	His Glu Gly Val His	Tyr
	290	295	300
Ser His Leu Glu	Leu Ser Pro Gly Glu	Pro Val Gln Glu Gly	Asp
	305	310	315
Pro His Phe Arg	Ser Ala Leu Thr Ala	His Pro Val Arg Asp	Pro
	320	325	330
Val His Met Tyr	Gln Leu His Lys Ala	Phe Ala Arg Ala Glu	Leu
	335	340	345
Glu Arg Thr Tyr	Gln Glu Ile Gln Glu	Leu Gln Trp Glu Ile	Gln
	350	355	360
Asn Thr Ser His	Leu Ala Val Asp Gly	Asp Arg Ala Ala Ala	Trp
	365	370	375
Pro Val Gly Ile	Pro Ala Pro Ser Arg	Pro Ala Ser Arg Phe	Glu
	380	385	390
Val Leu Arg Trp	Asp Tyr Phe Thr Glu	Gln His Ala Phe Ser	Cys
	395	400	405
Ala Asp Gly Ser	Pro Arg Cys Pro Leu	Arg Gly Ala Asp Arg	Ala
	410	415	420
Asp Val Ala Asp	Val Leu Gly Thr Ala	Leu Glu Glu Leu Asn	Arg
	425	430	435
Arg Tyr His Pro	Ala Leu Arg Leu Gln	Lys Gln Gln Leu Val	Asn
	440	445	450
Gly Tyr Arg Arg	Phe Asp Pro Ala Arg	Gly Met Glu Tyr Thr	Leu
	455	460	465
Asp Leu Gln Leu	Glu Ala Leu Thr Pro	Gln Gly Gly Arg Arg	Pro
	470	475	480
Leu Thr Arg Arg	Val Gln Leu Leu Arg	Pro Leu Ser Arg Val	Glu
	485	490	495
Ile Leu Pro Val	Pro Tyr Val Thr Glu	Ala Ser Arg Leu Thr	Val
	500	505	510
Leu Leu Pro Leu	Ala Ala Ala Glu Arg	Asp Leu Ala Pro Gly	Phe
	515	520	525
Leu Glu Ala Phe	Ala Thr Ala Ala Leu	Glu Pro Gly Asp Ala	Ala
	530	535	540
Ala Ala Leu Thr	Leu Leu Leu Leu Tyr	Glu Pro Arg Gln Ala	Gln
	545	550	555
Arg Val Ala His	Ala Asp Val Phe Ala	Pro Val Lys Ala His	Val
	560	565	570
Ala Glu Leu Glu	Arg Arg Phe Pro Gly	Ala Arg Val Pro Trp	Leu
	575	580	585

Ser	Val	Gln	Thr	Ala	Ala	Pro	Ser	Pro	Leu	Arg	Leu	Met	Asp	Leu	590	595	600
Leu	Ser	Lys	Lys	His	Pro	Leu	Asp	Thr	Leu	Phe	Leu	Leu	Ala	Gly	605	610	615
Pro	Asp	Thr	Val	Leu	Thr	Pro	Asp	Phe	Leu	Asn	Arg	Cys	Arg	Met	620	625	630
His	Ala	Ile	Ser	Gly	Trp	Gln	Ala	Phe	Phe	Pro	Met	His	Phe	Gln	635	640	645
Ala	Phe	His	Pro	Gly	Val	Ala	Pro	Pro	Gln	Gly	Pro	Gly	Pro	Pro	650	655	660
Glu	Leu	Gly	Arg	Asp	Thr	Gly	Arg	Phe	Asp	Arg	Gln	Ala	Ala	Ser	665	670	675
Glu	Ala	Cys	Phe	Tyr	Asn	Ser	Asp	Tyr	Val	Ala	Ala	Arg	Gly	Arg	680	685	690
Leu	Ala	Ala	Ala	Ser	Glu	Gln	Glu	Glu	Glu	Leu	Leu	Glu	Ser	Leu	695	700	705
Asp	Val	Tyr	Glu	Leu	Phe	Leu	His	Phe	Ser	Ser	Leu	His	Val	Leu	710	715	720
Arg	Ala	Val	Glu	Pro	Ala	Leu	Leu	Gln	Arg	Tyr	Arg	Ala	Gln	Thr	725	730	735
Cys	Ser	Ala	Arg	Leu	Ser	Glu	Asp	Leu	Tyr	His	Arg	Cys	Leu	Gln	740	745	750
Ser	Val	Leu	Glu	Gly	Leu	Gly	Ser	Arg	Thr	Gln	Leu	Ala	Met	Leu	755	760	765
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<220>

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gctttttaga agcttgattt cctttgaaga tgaaagacta gcggaagctc 200  
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ccatcaataa gaaatttctc agcctggccg aaaatggttg gccccacgaa 350  
gccacgacaa ctggaggcaa agagggttgc tcaacgcccc gcctcattgg 400



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35 40 45  
Lys Arg Pro Pro Glu Pro Thr Thr Pro Trp Gln Glu Asp Pro Glu  
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125 130 135  
Ile Met Glu Ser Asn Cys Phe Asp Pro Ser Lys Ile Gln Leu Pro  
140 145 150

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<212> DNA
<213> Artificial Sequence
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<220>  
<223> Synthetic oligonucleotide probe

<210>	339
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<213> Homo sapiens

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<211> 574

<212> PRT

<213> Homo sapiens

<400> 340

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Val	Ile	Thr	Pro	Leu	Pro	Ser	Gly	Asp	Val	Ala	Ala	Thr	Phe	Gln	35	40	45	
Phe	Arg	Thr	Arg	Trp	Asp	Ser	Glu	Leu	Gln	Arg	Glu	Gly	Val	Ser	50	55	60	
His	Tyr	Arg	Leu	Phe	Pro	Lys	Ala	Leu	Gly	Gln	Leu	Ile	Ser	Lys	65	70	75	
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Arg	Thr	Arg	Tyr	Trp	Gly	Pro	Pro	Phe	Leu	Gln	Ala	Pro	Ser	Gly	95	100	105	
Ala	Glu	Leu	Trp	Val	Trp	Phe	Gln	Asp	Thr	Val	Thr	Asp	Val	Asp	110	115	120	
Lys	Ser	Trp	Lys	Glu	Leu	Ser	Asn	Val	Leu	Ser	Gly	Ile	Phe	Cys	125	130	135	
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Asn	Leu	Thr	Pro	Trp	Lys	Lys	Leu	Leu	Pro	Cys	Ser	Ser	Lys	Ala	185	190	195
Gly	Leu	Ser	Val	Leu	Leu	Lys	Ala	Asp	Arg	Leu	Phe	His	Thr	Ser	200	205	210
Tyr	His	Ser	Gln	Ala	Val	His	Ile	Arg	Pro	Val	Cys	Arg	Asn	Ala	215	220	225
Arg	Cys	Thr	Ser	Ile	Ser	Trp	Glu	Leu	Arg	Gln	Thr	Leu	Ser	Val	230	235	240
Val	Phe	Asp	Ala	Phe	Ile	Thr	Gly	Gln	Gly	Lys	Lys	Asp	Trp	Ser	245	250	255
Leu	Phe	Arg	Met	Phe	Ser	Arg	Thr	Leu	Thr	Glu	Pro	Cys	Pro	Leu	260	265	270
Ala	Ser	Glu	Ser	Arg	Val	Tyr	Val	Asp	Ile	Thr	Thr	Tyr	Asn	Gln	275	280	285
Asp	Asn	Glu	Thr	Leu	Glu	Val	His	Pro	Pro	Pro	Thr	Thr	Thr	Tyr	290	295	300
Gln	Asp	Val	Ile	Leu	Gly	Thr	Arg	Lys	Thr	Tyr	Ala	Ile	Tyr	Asp	305	310	315
Leu	Leu	Asp	Thr	Ala	Met	Ile	Asn	Asn	Ser	Arg	Asn	Leu	Asn	Ile	320	325	330
Gln	Leu	Lys	Trp	Lys	Arg	Pro	Pro	Glu	Asn	Glu	Ala	Pro	Pro	Val	335	340	345
Pro	Phe	Leu	His	Ala	Gln	Arg	Tyr	Val	Ser	Gly	Tyr	Gly	Leu	Gln	350	355	360
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Ala	Phe	Pro	Val	Leu	Leu	Leu	Asp	Thr	Val	Pro	Trp	Tyr	Leu	Arg	380	385	390
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Lys	Pro	Ser	Tyr	Ile	His	Tyr	Gln	Pro	Ala	Gln	Asp	Arg	Leu	Gln	410	415	420
Pro	His	Leu	Leu	Glu	Met	Leu	Ile	Gln	Leu	Pro	Ala	Asn	Ser	Val	425	430	435
Thr	Lys	Val	Ser	Ile	Gln	Phe	Glu	Arg	Ala	Leu	Leu	Lys	Trp	Thr	440	445	450
Glu	Tyr	Thr	Pro	Asp	Pro	Asn	His	Gly	Phe	Tyr	Val	Ser	Pro	Ser	455	460	465

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Asp Trp Glu Glu Ser Pro Leu Phe Asn Ser Leu Phe Pro Val Ser  
485 490 495

Asp Gly Ser Asn Tyr Phe Val Arg Leu Tyr Thr Glu Pro Leu Leu  
500 505 510

Val Asn Leu Pro Thr Pro Asp Phe Ser Met Pro Tyr Asn Val Ile  
515 520 525

Cys Leu Thr Cys Thr Val Val Ala Val Cys Tyr Gly Ser Phe Tyr  
530 535 540

Asn Leu Leu Thr Arg Thr Phe His Ile Glu Glu Pro Arg Thr Gly  
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Gly Leu Ala Lys Arg Leu Ala Asn Leu Ile Arg Arg Ala Arg Gly  
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Val Pro Pro Leu

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35 40 45  
Pro Pro Gln Cys His Thr Asp Gln Asp Cys Leu Gly Glu Arg Lys  
50 55 60  
Cys Cys Tyr Leu His Cys Gly Phe Lys Cys Val Ile Pro Val Lys  
65 70 75  
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Gln	Pro	Lys	Ala	His	Thr	Thr	Gly	Asp	Arg	Gly	Lys	Glu	Ala	Asn
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Gln	Ala	Pro	Pro	Glu	Glu	Gln	Asp	Lys	Val	Pro	His	Thr	Ala	Gln
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Arg	Ala	Ala	Trp	Lys	Ser	Pro	Glu	Lys	Glu	Lys	Thr	Met	Val	Asn
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Ser	Glu	Lys	His	Gln	Gly	Lys	Ala	Ala	Thr	Thr	Ala	Lys	Thr	Leu
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Ile	Pro	Lys	Ser	Gln	His	Arg	Met	Leu	Ala	Pro	Thr	Gly	Ala	Val
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Ser	Thr	Arg	Thr	Arg	Gln	Lys	Gly	Val	Thr	Thr	Ala	Val	Ile	Pro
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Pro	Lys	Glu	Lys	Lys	Pro	Gln	Ala	Thr	Pro	Pro	Pro	Ala	Pro	Phe
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Gln	Ser	Pro	Thr	Thr	Gln	Arg	Asn	Gln	Arg	Leu	Lys	Ala	Ala	Asn
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Phe	Lys	Ser	Glu	Pro	Arg	Trp	Asp	Phe	Glu	Glu	Lys	Tyr	Ser	Phe
				260					265					270
Glu	Ile	Gly	Gly	Leu	Gln	Thr	Thr	Cys	Pro	Asp	Ser	Val	Lys	Ile
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Lys	Ala	Ser	Lys	Ser	Leu	Trp	Leu	Gln	Lys	Leu	Phe	Leu	Pro	Asn
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Leu	Thr	Leu	Phe	Leu	Asp	Ser	Arg	His	Phe	Asn	Gln	Ser	Glu	Trp
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Asp	Arg	Leu	Glu	His	Phe	Ala	Pro	Pro	Phe	Gly	Phe	Met	Glu	Leu
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Asn	Tyr	Ser	Leu	Val	Gln	Lys	Val	Val	Thr	Arg	Phe	Pro	Pro	Val
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Pro	Gln	Gln	Gln	Leu	Leu	Leu	Ala	Ser	Leu	Pro	Ala	Gly	Ser	Leu
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Arg	Cys	Ile	Thr	Cys	Ala	Val	Val	Gly	Asn	Gly	Gly	Ile	Leu	Asn
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Asn	Ser	His	Met	Gly	Gln	Glu	Ile	Asp	Ser	His	Asp	Tyr	Val	Phe

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Thr Arg Thr Ser Phe Tyr Gly Phe Thr Ala Phe Ser Leu Thr Gln		
410	415	420
Ser Leu Leu Ile Leu Gly Asn Arg Gly Phe Lys Asn Val Pro Leu		
425	430	435
Gly Lys Asp Val Arg Tyr Leu His Phe Leu Glu Gly Thr Arg Asp		
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Tyr Glu Trp Leu Glu Ala Leu Leu Met Asn Gln Thr Val Met Ser		
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Lys Asn Leu Phe Trp Phe Arg His Arg Pro Gln Glu Ala Phe Arg		
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Glu Ala Leu His Met Asp Arg Tyr Leu Leu Leu His Pro Asp Phe		
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Leu Arg Tyr Met Lys Asn Arg Phe Leu Arg Ser Lys Thr Leu Asp		
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Gly Ala His Trp Arg Ile Tyr Arg Pro Thr Thr Gly Ala Leu Leu		
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Phe Ile Thr Glu Gly His Glu Arg Phe Ser Asp His Tyr Tyr Asp		
545	550	555
Thr Ser Trp Lys Arg Leu Ile Phe Tyr Ile Asn His Asp Phe Lys		
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Leu Glu Arg Glu Val Trp Lys Arg Leu His Asp Glu Gly Ile Ile		
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 35 40 45  
 Tyr Phe Ser Pro Lys Cys Ser Lys His Phe His Arg Leu Tyr His  
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Lys

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 Cys Leu Trp Tyr Leu Asp Arg Asn Gly Ser Trp His Pro Gly Phe  
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 Asn Cys Glu Phe Phe Thr Phe Cys Cys Gly Thr Cys Tyr His Arg  
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 Tyr Cys Cys Arg Asp Leu Thr Leu Leu Ile Thr Glu Arg Gln Gln  
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 Lys His Cys Leu Ala Phe Ser Pro Lys Thr Ile Ala Gly Ile Ala  
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 Ser Ala Val Ile Leu Phe Val Ala Val Val Ala Thr Thr Ile Cys  
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 Cys Phe Leu Cys Ser Cys Cys Tyr Leu Tyr Arg Arg Arg Gln Gln  
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 Leu Gln Ser Pro Phe Glu Gly Gln Glu Ile Pro Met Thr Gly Ile  
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 Pro Val Gln Pro Val Tyr Pro Tyr Pro Gln Asp Pro Lys Ala Gly  
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Ala	Val	Pro	Asp	Lys 275	Ile	Asn	Gln	Ala	Asp 280	Tyr	Ala	Leu	Asp	Ala 285
Ala	Val	Thr	Leu	Leu 290	Glu	Phe	Tyr	Glu	Asp 295	Tyr	Phe	Ser	Ile	Pro 300
Tyr	Pro	Leu	Pro	Lys 305	Gln	Asp	Leu	Ala	Ala 310	Ile	Pro	Asp	Phe	Gln 315
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Ala	Leu	Leu	Phe	Asp 335	Ala	Glu	Lys	Ser	Ser 340	Ala	Ser	Ser	Lys	Leu 345
Gly	Ile	Thr	Val	Thr 350	Val	Ala	His	Glu	Leu 355	Ala	His	Gln	Trp	Phe 360
Gly	Asn	Leu	Val	Thr 365	Met	Glu	Trp	Trp	Asn 370	Asp	Leu	Trp	Leu	Asn 375
Glu	Gly	Phe	Ala	Lys 380	Phe	Met	Glu	Phe	Val 385	Ser	Val	Ser	Val	Thr 390
His	Pro	Glu	Leu	Lys 395	Val	Gly	Asp	Tyr	Phe 400	Phe	Gly	Lys	Cys	Phe 405
Asp	Ala	Met	Glu	Val 410	Asp	Ala	Leu	Asn	Ser 415	Ser	His	Pro	Val	Ser 420
Thr	Pro	Val	Glu	Asn 425	Pro	Ala	Gln	Ile	Arg 430	Glu	Met	Phe	Asp	Asp 435
Val	Ser	Tyr	Asp	Lys 440	Gly	Ala	Cys	Ile	Leu 445	Asn	Met	Leu	Arg	Glu 450
Tyr	Leu	Ser	Ala	Asp 455	Ala	Phe	Lys	Ser	Gly 460	Ile	Val	Gln	Tyr	Leu 465
Gln	Lys	His	Ser	Tyr 470	Lys	Asn	Thr	Lys	Asn 475	Glu	Asp	Leu	Trp	Asp 480
Ser	Met	Ala	Ser	Ile 485	Cys	Pro	Thr	Asp	Gly 490	Val	Lys	Gly	Met	Asp 495
Gly	Phe	Cys	Ser	Arg 500	Ser	Gln	His	Ser	Ser 505	Ser	Ser	Ser	His	Trp 510
His	Gln	Glu	Gly	Val 515	Asp	Val	Lys	Thr	Met 520	Met	Asn	Thr	Trp	Thr 525
Leu	Gln	Arg	Gly	Phe	Pro	Leu	Ile	Thr	Ile	Thr	Val	Arg	Gly	Arg

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Thr	Ser	Lys	Ser	Asn	Met	Val	His	Arg	Phe	Leu	Leu	Lys	Thr	Lys					
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Gly	Trp	Asp	Ser	Leu	Thr	Gly	Leu	Leu	Lys	Gly	Thr	His	Thr	Ala					
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Val	Ser	Ser	Asn	Asp	Arg	Ala	Ser	Leu	Ile	Asn	Asn	Ala	Phe	Gln					
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Ser	Leu	Tyr	Leu	Lys	His	Glu	Thr	Glu	Ile	Met	Pro	Val	Phe	Gln					
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Gly	Leu	Asn	Glu	Leu	Ile	Pro	Met	Tyr	Lys	Leu	Met	Glu	Lys	Arg					
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Asp	Met	Asn	Glu	Val	Glu	Thr	Gln	Phe	Lys	Ala	Phe	Leu	Ile	Arg					
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Leu	Leu	Arg	Asp	Leu	Ile	Asp	Lys	Gln	Thr	Trp	Thr	Asp	Glu	Gly					
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Ser	Val	Ser	Glu	Gln	Met	Leu	Arg	Ser	Glu	Leu	Leu	Leu	Leu	Ala					
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Cys	Val	His	Asn	Tyr	Gln	Pro	Cys	Val	Gln	Arg	Ala	Glu	Gly	Tyr					
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Phe	Arg	Lys	Trp	Lys	Glu	Ser	Asn	Gly	Asn	Leu	Ser	Leu	Pro	Val					
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Asp	Val	Thr	Leu	Ala	Val	Phe	Ala	Val	Gly	Ala	Gln	Ser	Thr	Glu					
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Lys	Glu	Lys	Leu	Gln	Trp	Leu	Leu	Asp	Glu	Ser	Phe	Lys	Gly	Asp					
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Lys	Ile	Lys	Thr	Gln	Glu	Phe	Pro	Gln	Ile	Leu	Thr	Leu	Ile	Gly					
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Pro Gln Pro Gly Cys Asn Leu Leu Asn	Gly Thr Gln Glu Ile Gly	
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Pro Val Gly Met Thr Glu Asn Cys Asn	Arg Lys Asp Phe Leu Thr	
200	205	210
Cys His Arg Gly Thr Thr Ile Met Thr	His Gly Asn Leu Ala Gln	
215	220	225
Glu Pro Thr Asp Trp Thr Thr Ser Asn	Thr Glu Met Cys Glu Val	
230	235	240
Gly Gln Val Cys Gln Glu Thr Leu Leu	Leu Ile Asp Val Gly Leu	
245	250	255
Thr Ser Thr Leu Val Gly Thr Lys Gly	Cys Ser Thr Val Gly Ala	
260	265	270
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275	280	285
Leu Val Ala Ser Tyr Thr His Phe Cys	Ser Ser Asp Leu Cys Asn	
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Ser Ala Ser Ser Ser Ser Val Leu Leu	Asn Ser Leu Pro Pro Gln	
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Ala Ala Pro Val Pro Gly Asp Arg Gln	Cys Pro Thr Cys Val Gln	
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Pro Leu Gly Thr Cys Ser Ser Gly Ser	Pro Arg Met Thr Cys Pro	
335	340	345
Arg Gly Ala Thr His Cys Tyr Asp Gly	Tyr Ile His Leu Ser Gly	
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365	370	375
Pro Ser Ser Phe Leu Leu Asn His Thr	Arg Gln Ile Gly Ile Phe	
380	385	390
Ser Ala Arg Glu Lys Arg Asp Val Gln	Pro Pro Ala Ser Gln His	
395	400	405
Glu Gly Gly Gly Ala Glu Gly Leu Glu	Ser Leu Thr Trp Gly Val	
410	415	420
Gly Leu Ala Leu Ala Pro Ala Leu Trp	Trp Gly Val Val Cys Pro	
425	430	435

Ser Cys

<210> 356  
 <211> 1238  
 <212> DNA  
 <213> Homo sapiens

<400> 356  
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 cctgcctgcg ctcaggatga gggggaatct ggccctggtg ggcgttctaa 100  
 tcagcctggc cttcctgtca ctgctgccat ctggacatcc tcagccggct 150  
 ggcgatgacg cctgctctgt gcagatcctc gtccctggcc tcaaagggga 200  
 tgccgggagag aaggagagaca aaggcgcccc cgacggcct ggaagagtcg 250  
 gcccacggg agaaaaagga gacatggggg acaaaggaca gaaaggcagt 300  
 gtgggtcgtc atggaaaaat tggccccatt ggctctaaag gtgagaaagg 350  
 agattccggt gacataggac cccctggtcc taatggagaa ccaggcctcc 400  
 catgtgagt cagccagctg cgcaaggcca tcggggagat ggacaaccag 450  
 gtctctcagc tgaccagcga gctcaagttc atcaagaatg ctgtcgccgg 500  
 tgtgcgcgag acggagagca agatctacct gctggtgaag gaggagaagc 550  
 gctacgcgga cggccagctg tcctgccagg gccgcggggg cacgctgagc 600  
 atgcccagg acgaggctgc caatggcctg atggccgcat acctggcgca 650  
 agccggcctg gcccggtgtc tcctggcag caacgacctg gagaaggagg 700  
 gcgccttcgt gtactctgac cactccccca tgcggacctt caacaagtgg 750  
 cgcagcgggt agcccacaa tgccctacgac gaggaggact gcgtggagat 800  
 ggtggcctcg ggcggctgga acgacgtggc ctgccacacc accatgtact 850  
 tcatgtgtga gtttgacaag gagaacatgt gaggcctcagg ctggggctgc 900  
 ccattggggg ccccatatgt ccctgcaggg ttggcaggga cagagcccag 950  
 accatggtgc cagccaggga gctgtccctc tgtgaagggt ggaggctcac 1000  
 tgagtagagg gctgttgtct aaactgagaa aatggcctat gcttaagagg 1050  
 aaaatgaaag tgttcctggg gtgctgtctc tgaagaagca gagtttcatt 1100  
 acctgtattg tagccccaat gtcattatgt aattattacc cagaattgct 1150  
 cttocataaa gcttgtgcoo ttgtccaagc tatacaataa aatctttaag 1200  
 tagtgcagta gtttaagtcca aaaaaaaaaa aaaaaaaaa 1238

<210> 357  
 <211> 271  
 <212> PRT  
 <213> Homo sapiens

<400> 357  
 Met Arg Gly Asn Leu Ala Leu Val Gly Val Leu Ile Ser Leu Ala  
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 Phe Leu Ser Leu Leu Pro Ser Gly His Pro Gln Pro Ala Gly Asp  
                     20                    25                    30

Asp	Ala	Cys	Ser	Val	Gln	Ile	Leu	Val	Pro	Gly	Leu	Lys	Gly	Asp	
				35					40					45	
Ala	Gly	Glu	Lys	Gly	Asp	Lys	Gly	Ala	Pro	Gly	Arg	Pro	Gly	Arg	
				50					55					60	
Val	Gly	Pro	Thr	Gly	Glu	Lys	Gly	Asp	Met	Gly	Asp	Lys	Gly	Gln	
				65					70					75	
Lys	Gly	Ser	Val	Gly	Arg	His	Gly	Lys	Ile	Gly	Pro	Ile	Gly	Ser	
				80					85					90	
Lys	Gly	Glu	Lys	Gly	Asp	Ser	Gly	Asp	Ile	Gly	Pro	Pro	Gly	Pro	
				95					100					105	
Asn	Gly	Glu	Pro	Gly	Leu	Pro	Cys	Glu	Cys	Ser	Gln	Leu	Arg	Lys	
				110					115					120	
Ala	Ile	Gly	Glu	Met	Asp	Asn	Gln	Val	Ser	Gln	Leu	Thr	Ser	Glu	
				125					130					135	
Leu	Lys	Phe	Ile	Lys	Asn	Ala	Val	Ala	Gly	Val	Arg	Glu	Thr	Glu	
				140					145					150	
Ser	Lys	Ile	Tyr	Leu	Leu	Val	Lys	Glu	Glu	Lys	Arg	Tyr	Ala	Asp	
				155					160					165	
Ala	Gln	Leu	Ser	Cys	Gln	Gly	Arg	Gly	Gly	Thr	Leu	Ser	Met	Pro	
				170					175					180	
Lys	Asp	Glu	Ala	Ala	Asn	Gly	Leu	Met	Ala	Ala	Tyr	Leu	Ala	Gln	
				185					190					195	
Ala	Gly	Leu	Ala	Arg	Val	Phe	Ile	Gly	Ile	Asn	Asp	Leu	Glu	Lys	
				200					205					210	
Glu	Gly	Ala	Phe	Val	Tyr	Ser	Asp	His	Ser	Pro	Met	Arg	Thr	Phe	
				215					220					225	
Asn	Lys	Trp	Arg	Ser	Gly	Glu	Pro	Asn	Asn	Ala	Tyr	Asp	Glu	Glu	
				230					235					240	
Asp	Cys	Val	Glu	Met	Val	Ala	Ser	Gly	Gly	Trp	Asn	Asp	Val	Ala	
				245					250					255	
Cys	His	Thr	Thr	Met	Tyr	Phe	Met	Cys	Glu	Phe	Asp	Lys	Glu	Asn	
				260					265					270	

Met

<210> 358

<211> 972

<212> DNA

<213> Homo sapiens

<400> 358

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gttccttgat cctgccagac caccagccc ccggcacaga gctgctccac 150

aggcaccatg aggatcatgc tgctattcac agccatcctg gccttcagcc 200  
tagctcagag ctttggggct gtctgtaagg agccacagga ggaggtgggt 250  
cctggcgggg gccgcagcaa gagggatcca gatctctacc agctgctcca 300  
gagactcttc aaaagccact catctctgga gggattgctc aaagccctga 350  
gccaggctag cacagatcct aaggaatcaa catctcccga gaaacgtgac 400  
atgcatgact tctttgtggg acttatgggc aagaggagcg tccagccaga 450  
gggaaagaca ggacctttct taccttcagt gagggttcct cggccccttc 500  
atcccaatca gcttgatcc acaggaaagt cttccctggg aacagaggag 550  
cagagacctt tataagactc tcctacggat gtgaatcaag agaacgtccc 600  
cagctttggc atcctcaagt atccccgag agcagaatag gtactccact 650  
tccggactcc tggactgcat taggaagacc tctttccctg tcccaatccc 700  
caggtgcgca cgctcctgtt accctttctc ttccctgttc ttgtaacatt 750  
cttgtgcttt gactccttct ccatcttttc tacctgaccc tgggtgtggaa 800  
actgcatagt gaatatcccc aacccaatg ggcattgact gtagaatacc 850  
ctagagttcc tgtagtgtcc tacattaaat atataatgtc tctctctatt 900  
cctcaacaat aaaggatttt tgcataatgaa aaaaaaaaaa aaaaaaaaaa 950  
aaaaaaaaaa aaaaaaaaaa aa 972

<210> 359

<211> 135

<212> PRT

<213> Homo sapiens

<400> 359

Met	Arg	Ile	Met	Leu	Leu	Phe	Thr	Ala	Ile	Leu	Ala	Phe	Ser	Leu	1	5	10	15
Ala	Gln	Ser	Phe	Gly	Ala	Val	Cys	Lys	Glu	Pro	Gln	Glu	Glu	Val	20	25	30	
Val	Pro	Gly	Gly	Gly	Arg	Ser	Lys	Arg	Asp	Pro	Asp	Leu	Tyr	Gln	35	40	45	
Leu	Leu	Gln	Arg	Leu	Phe	Lys	Ser	His	Ser	Ser	Leu	Glu	Gly	Leu	50	55	60	
Leu	Lys	Ala	Leu	Ser	Gln	Ala	Ser	Thr	Asp	Pro	Lys	Glu	Ser	Thr	65	70	75	
Ser	Pro	Glu	Lys	Arg	Asp	Met	His	Asp	Phe	Phe	Val	Gly	Leu	Met	80	85	90	
Gly	Lys	Arg	Ser	Val	Gln	Pro	Glu	Gly	Lys	Thr	Gly	Pro	Phe	Leu	95	100	105	
Pro	Ser	Val	Arg	Val	Pro	Arg	Pro	Leu	His	Pro	Asn	Gln	Leu	Gly	110	115	120	



Ser Thr Gly Lys Ser Ser Leu Gly Thr Glu Glu Gln Arg Pro Leu  
125 130 135

<210> 360  
<211> 1738  
<212> DNA  
<213> Homo sapiens

<400> 360  
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gagacgccag cgagctggtg attggagccc tgcggagagc tcaagcgccc 150  
agctctgccc caggagccca ggctgccccg tgagtcccat agttgctgca 200  
ggagtggagc catgagctgc gtctgggtg gtgtcatccc cttggggctg 250  
ctgttccttg tctgcggatc ccaaggctac ctctgcccc aogtactct 300  
cttagaggag ctgctcagca aataccagca caacgagtct caotccggg 350  
tccgcagagc catccccagg gaggacaagg aggagatcct catgctgcac 400  
aacaagcttc ggggccagggt gcagcctcag gcctccaaca tggagtacat 450  
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gccaccagcc tgctctgttc cccagccagc tctgttcccc agccagtgcg 550  
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gttaagcgat cctgcttcag cctcccaagt agctggaact acaggcatgc 750  
accatggtgc ccagctagat tttaaatatt ttgtggagat gggggtcttg 800  
ctacgttgcc caggctggtc ttgaactcct aggtcaagc aatcctcctg 850  
cctcagcctc tcaaagtgtc aggattatag gcatgagtca ccctgtctgg 900  
ctctggctct gttcttaaca ttctgccaaa acaacacacg tgggttccct 950  
gtgcagagcc tgcctcgttg cttcatgtc actcttggtg gctccactgg 1000  
gaacacagct ctcagccttt cccacctgga ggagagtggt ggaggggccc 1050  
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accaccctga cttctcctta gcccggtgtg gcctcacttt ccaacttgag 1150  
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agggcccggc acagactgac ctgcctcccc aaccctagg ctttgctaac 1250  
cgggaaagga gctaacggtg acagaagaca gccaaagtca accctcccg 1300  
gtgattgtga tgggtgttcc aggtgtggtt gggcgatgct gctacttgac 1350

cccaagctcc agtgtggaaa cttccttcct ggotgggttt ccagaactac 1400  
 agaggaatgg accacagtct tccagggtcc ctctcgtcc accaaccggg 1450  
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 caggtcccag cctgggtaac atggtaaagc cccgtctcta caaaaaaatc 1550  
 caagttagcc gggcatggtg gtgcgcacct gtagtcccag ctgcagtggg 1600  
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 tccagcctgg gtgacagagc aagaccctgt ctcaaaaa 1738

<210> 361  
 <211> 159  
 <212> PRT  
 <213> Homo sapiens

<400> 361  
 Met Ser Cys Val Leu Gly Gly Val Ile Pro Leu Gly Leu Leu Phe  
 1 5 10 15  
 Leu Val Cys Gly Ser Gln Gly Tyr Leu Leu Pro Asn Val Thr Leu  
 20 25 30  
 Leu Glu Glu Leu Leu Ser Lys Tyr Gln His Asn Glu Ser His Ser  
 35 40 45  
 Arg Val Arg Arg Ala Ile Pro Arg Glu Asp Lys Glu Glu Ile Leu  
 50 55 60  
 Met Leu His Asn Lys Leu Arg Gly Gln Val Gln Pro Gln Ala Ser  
 65 70 75  
 Asn Met Glu Tyr Met Val Ser Ala Gly Ser Gly Arg Arg Gly Trp  
 80 85 90  
 His Arg Gly Trp Gly Leu Gly His Gln Pro Ala Leu Phe Pro Ser  
 95 100 105  
 Gln Leu Cys Ser Pro Ala Ser Ala Cys Asp Gly Trp Leu Arg Val  
 110 115 120  
 Ser Ser Gly Arg Gly Gly Ser Arg Leu Cys Ser Val Leu Phe Val  
 125 130 135  
 Cys Phe Glu Thr Gly Ser His Ser Ala Thr Asp Ala Gly Val Gln  
 140 145 150  
 Trp His Asn Arg His Ala Leu Lys Pro  
 155

<210> 362  
 <211> 422  
 <212> DNA  
 <213> Homo sapiens

<400> 362  
 aaggagaggg caccgggact tcagtgtctc ctccatccca ggagcgcagt 50

ggccactatg gggctctgggc tgccccttgt cctcctcttg accctccttg 100  
gcagctcaca tggaacaggg ccgggtatga ctttgcaact gaagctgaag 150  
gagtcttttc tgacaaattc ctcttatgag tccagcttcc tggaattgct 200  
tgaaaagctc tgcctcctcc tccatctccc ttcagggacc agcgtcacc 250  
tccacatgc aagatctcaa caccatgttg tctgcaacac atgacagcca 300  
ttgaagcctg tgtccttctt ggcccgggct tttgggccgg ggatgcagga 350  
ggcaggcccc gaccctgtct ttcagcaggc cccacccctc ctgagtggca 400  
ataaataaaa ttcggtatgc tg 422

<210> 363  
<211> 78  
<212> PRT  
<213> Homo sapiens

<400> 363  
Met Gly Ser Gly Leu Pro Leu Val Leu Leu Leu Thr Leu Leu Gly  
1 5 10 15  
Ser Ser His Gly Thr Gly Pro Gly Met Thr Leu Gln Leu Lys Leu  
20 25 30  
Lys Glu Ser Phe Leu Thr Asn Ser Ser Tyr Glu Ser Ser Phe Leu  
35 40 45  
Glu Leu Leu Glu Lys Leu Cys Leu Leu Leu His Leu Pro Ser Gly  
50 55 60  
Thr Ser Val Thr Leu His His Ala Arg Ser Gln His His Val Val  
65 70 75  
Cys Asn Thr

<210> 364  
<211> 826  
<212> DNA  
<213> Homo sapiens

<400> 364  
aattgtatct gtgtaatgtt aaaacaaacg aaataaaata gaaggaaaaa 50  
ctttctgagt ttcaaaaaca acagactagt actctaaaga actctttaaa 100  
acaattaact gttaggattg cagttatgat tggatattat ttaattctgt 150  
ttctgatgtg gggttcctcc actgtgttct gtgtgctatt aatatttacc 200  
attgcagaag cttcattcag tgttgaaaat gaatgcttag tggatctgtg 250  
cctcttacgc atatgttaca aattatctgg agttcctaata caatgcagag 300  
ttccccctcc ctccgattgt tctaaataat tgaaagatgt ctgctgtgga 350  
aaaaggcatg tatttaaatc tgtatgattc tcaaccatct ttagttggga 400  
aaggtccttg aaagccaatg gaaatacttt ttttttttct tggcactaat 450

caagtgagtg ttaccttttc acttagtagg atgtgttggt acgctagtaa 500  
aatagaaacc tgtgtttatt ctcagggtatt ttagaaacaa cagccatcat 550  
tttattttat gtgtgtgttc ttggctgtat tcataaatta tatattttgg 600  
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tacttagata tgctttctag ttgcattttc tcagcctatg taagactact 700  
ttgttgtaat agcctttgaa atttacagta ctgtctctct actatcttca 750  
gattacttga ttcaaataaa ccaattatgt ttgtaattga tattaataaa 800  
accagaataa aagttcatat ctaccc 826

<210> 365  
<211> 67  
<212> PRT  
<213> Homo sapiens

<400> 365  
Met Ile Gly Tyr Tyr Leu Ile Leu Phe Leu Met Trp Gly Ser Ser  
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Thr Val Phe Cys Val Leu Leu Ile Phe Thr Ile Ala Glu Ala Ser  
20 25 30  
Phe Ser Val Glu Asn Glu Cys Leu Val Asp Leu Cys Leu Leu Arg  
35 40 45  
Ile Cys Tyr Lys Leu Ser Gly Val Pro Asn Gln Cys Arg Val Pro  
50 55 60  
Leu Pro Ser Asp Cys Ser Lys  
65

<210> 366  
<211> 2475  
<212> DNA  
<213> Homo sapiens

<400> 366  
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ttttgcagga tgatggtggc ccttcgagga gcttctgcat tgctggttct 150  
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 gtcaatgcgt tcatcgtttc agcctaaaaa taatagtctg tccctttagc 2300  
 cagttttcat gtctgcacaa gacctttcaa taggcctttc aaatgataat 2350  
 tcctccagaa aaccagtcta agggtgagga cccaactct agcctcctct 2400  
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 gacactgagc aaaaaaaaaa aaaaa 2475

<210> 367  
 <211> 402  
 <212> PRT  
 <213> Homo sapiens

<400> 367  
 Met Met Val Ala Leu Arg Gly Ala Ser Ala Leu Leu Val Leu Phe  
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 Leu Ala Ala Phe Leu Pro Pro Pro Gln Cys Thr Gln Asp Pro Ala  
                   20                  25                  30  
 Met Val His Tyr Ile Tyr Gln Arg Phe Arg Val Leu Glu Gln Gly  
                   35                  40                  45  
 Leu Glu Lys Cys Thr Gln Ala Thr Arg Ala Tyr Ile Gln Glu Phe  
                   50                  55                  60  
 Gln Glu Phe Ser Lys Asn Ile Ser Val Met Leu Gly Arg Cys Gln  
                   65                  70                  75  
 Thr Tyr Thr Ser Glu Tyr Lys Ser Ala Val Gly Asn Leu Ala Leu  
                   80                  85                  90  
 Arg Val Glu Arg Ala Gln Arg Glu Ile Asp Tyr Ile Gln Tyr Leu  
                   95                  100                  105  
 Arg Glu Ala Asp Glu Cys Ile Val Ser Glu Asp Lys Thr Leu Ala  
                   110                  115                  120  
 Glu Met Leu Leu Gln Glu Ala Glu Glu Glu Lys Lys Ile Arg Thr  
                   125                  130                  135  
 Leu Leu Asn Ala Ser Cys Asp Asn Met Leu Met Gly Ile Lys Ser  
                   140                  145                  150  
 Leu Lys Ile Val Lys Lys Met Met Asp Thr His Gly Ser Trp Met  
                   155                  160                  165  
 Lys Asp Ala Val Tyr Asn Ser Pro Lys Val Tyr Leu Leu Ile Gly  
                   170                  175                  180  
 Ser Arg Asn Asn Thr Val Trp Glu Phe Ala Asn Ile Arg Ala Phe  
                   185                  190                  195  
 Met Glu Asp Asn Thr Lys Pro Ala Pro Arg Lys Gln Ile Leu Thr  
                   200                  205                  210



gctggaccac gccaccctgg tgcgcttcag ccctgactgc agagccttca 500  
 tcgtctggct ggccaacggg gacaccctcc gtgtcttcaa gatgaccaag 550  
 cgggaggatg ggggctacac cttcacagcc accccagagg acttccctaa 600  
 aaagcacaag ggcctgtca tcgacattgg cattgctaac acagggaagt 650  
 ttatcatgac tgcctccagt gacaccactg tctcatctg gagcctgaag 700  
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 gtggtgcgag ccttcgaact aaagggccac tccgcggtg tgcactcggt 900  
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 tacttgctga agacaggccg ctttgaagag gcggcgggtg ccgcgccgtg 1050  
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 ccgctttctg gcctcctgtg gggaccgggc ggtgcggctg tttcacaaca 1250  
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 gcctccaacg agagcaccg ccagaggctg cagcagcagc tgaccaggc 1350  
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 gcccggcga gaggattgag gaggaggat ctggcctcct catggcactg 1450  
 ctgccatctt tctcccagg tggaagcctt tcagaaggag tctcctggtt 1500  
 ttcttactgg tggcctgct tcttccatt gaaactactc ttgtctactt 1550  
 aggtctctct cttcttgctg gctgtgactc ctccctgact agtggccaag 1600  
 gtgcttttct tctcccagg ccagtggtt ggaatctgtc cccacctggc 1650  
 actgaggaga atggtagaga ggagaggaga gagagagaga atgtgatttt 1700  
 tggccttggt gcagcacatc ctcacacca aagaagtttg taaatgttcc 1750  
 agaacaacct agagaacacc tgagtactaa gcagcagttt tgcaaggatg 1800  
 ggagactggg atagcttccc atcacagaac tgtgttccat caaaaagaca 1850  
 ctaagggatt tcttctggg cctcagttct atttgtaaga tggagaataa 1900  
 tctctctgt gaactccttg caaagatgat atgaggctaa gagaatatca 1950  
 agtccccagg tctggaagaa aagtagaaaa gagtagtact attgtccaat 2000  
 gtcataaag tggtaaaagt gggaaccagt gtgctttgaa accaaattag 2050



aaacacattc cttgggaagg caaagttttc tgggacttga tcatacattt 2100  
 tatatggttg ggacttctct cttcgggaga tgatatcttg ttttaaggaga 2150  
 cctctttttca gttcatcaag ttcacatgat atttgagtgc ccactctgtg 2200  
 cccaaataaa tatgagctgg ggattaaaaa aaaaaaaaaa aaaaaaaaaa 2250  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa a 2281

<210> 369  
 <211> 447  
 <212> PRT  
 <213> Homo sapiens

<400> 369  
 Met Glu Leu Ser Gln Met Ser Glu Leu Met Gly Leu Ser Val Leu  
 1 5 10 15  
 Leu Gly Leu Leu Ala Leu Met Ala Thr Ala Ala Val Ala Arg Gly  
 20 25 30  
 Trp Leu Arg Ala Gly Glu Glu Arg Ser Gly Arg Pro Ala Cys Gln  
 35 40 45  
 Lys Ala Asn Gly Phe Pro Pro Asp Lys Ser Ser Gly Ser Lys Lys  
 50 55 60  
 Gln Lys Gln Tyr Gln Arg Ile Arg Lys Glu Lys Pro Gln Gln His  
 65 70 75  
 Asn Phe Thr His Arg Leu Leu Ala Ala Ala Leu Lys Ser His Ser  
 80 85 90  
 Gly Asn Ile Ser Cys Met Asp Phe Ser Ser Asn Gly Lys Tyr Leu  
 95 100 105  
 Ala Thr Cys Ala Asp Asp Arg Thr Ile Arg Ile Trp Ser Thr Lys  
 110 115 120  
 Asp Phe Leu Gln Arg Glu His Arg Ser Met Arg Ala Asn Val Glu  
 125 130 135  
 Leu Asp His Ala Thr Leu Val Arg Phe Ser Pro Asp Cys Arg Ala  
 140 145 150  
 Phe Ile Val Trp Leu Ala Asn Gly Asp Thr Leu Arg Val Phe Lys  
 155 160 165  
 Met Thr Lys Arg Glu Asp Gly Gly Tyr Thr Phe Thr Ala Thr Pro  
 170 175 180  
 Glu Asp Phe Pro Lys Lys His Lys Ala Pro Val Ile Asp Ile Gly  
 185 190 195  
 Ile Ala Asn Thr Gly Lys Phe Ile Met Thr Ala Ser Ser Asp Thr  
 200 205 210  
 Thr Val Leu Ile Trp Ser Leu Lys Gly Gln Val Leu Ser Thr Ile  
 215 220 225  
 Asn Thr Asn Gln Met Asn Asn Thr His Ala Ala Val Ser Pro Cys  
 230 235 240

Gly	Arg	Phe	Val	Ala	Ser	Cys	Gly	Phe	Thr	Pro	Asp	Val	Lys	Val	245	250	255
Trp	Glu	Val	Cys	Phe	Gly	Lys	Lys	Gly	Glu	Phe	Gln	Glu	Val	Val	260	265	270
Arg	Ala	Phe	Glu	Leu	Lys	Gly	His	Ser	Ala	Ala	Val	His	Ser	Phe	275	280	285
Ala	Phe	Ser	Asn	Asp	Ser	Arg	Arg	Met	Ala	Ser	Val	Ser	Lys	Asp	290	295	300
Gly	Thr	Trp	Lys	Leu	Trp	Asp	Thr	Asp	Val	Glu	Tyr	Lys	Lys	Lys	305	310	315
Gln	Asp	Pro	Tyr	Leu	Leu	Lys	Thr	Gly	Arg	Phe	Glu	Glu	Ala	Ala	320	325	330
Gly	Ala	Ala	Pro	Cys	Arg	Leu	Ala	Leu	Ser	Pro	Asn	Ala	Gln	Val	335	340	345
Leu	Ala	Leu	Ala	Ser	Gly	Ser	Ser	Ile	His	Leu	Tyr	Asn	Thr	Arg	350	355	360
Arg	Gly	Glu	Lys	Glu	Glu	Cys	Phe	Glu	Arg	Val	His	Gly	Glu	Cys	365	370	375
Ile	Ala	Asn	Leu	Ser	Phe	Asp	Ile	Thr	Gly	Arg	Phe	Leu	Ala	Ser	380	385	390
Cys	Gly	Asp	Arg	Ala	Val	Arg	Leu	Phe	His	Asn	Thr	Pro	Gly	His	395	400	405
Arg	Ala	Met	Val	Glu	Glu	Met	Gln	Gly	His	Leu	Lys	Arg	Ala	Ser	410	415	420
Asn	Glu	Ser	Thr	Arg	Gln	Arg	Leu	Gln	Gln	Gln	Leu	Thr	Gln	Ala	425	430	435
Gln	Glu	Thr	Leu	Lys	Ser	Leu	Gly	Ala	Leu	Lys	Lys				440	445	

<210> 370  
 <211> 1415  
 <212> DNA  
 <213> Homo sapiens

<400> 370  
 tggcctcccc agcttgccag gcacaaggct gagcgggagg aagcgagagg 50  
 catctaagca ggcagtgttt tgccttcacc ccaagtgacc atgagaggtg 100  
 ccacgcgagt ctcaatcatg ctctcctag taactgtgtc tgactgtgct 150  
 gtgatcacag gggcctgtga gcgggatgtc cagtgtgggg caggcacctg 200  
 ctgtgccatc agcctgtggc ttcgagggtc gcggatgtgc accccgctgg 250  
 ggcgggaagg cgaggagtgc caccgccgca gccacaaggc ccccttcttc 300  
 aggaaacgca agcaccacac ctgtccttgc ttgcccaacc tgctgtgctc 350  
 caggttcccg gacggcaggt accgctgctc catggacttg aagaacatca 400

atttttaggc gcttgcctgg tctcaggata cccaccatcc ttttcctgag 450  
 cacagcctgg atttttattt ctgccatgaa acccagctcc catgactctc 500  
 ccagtcacct cactgactac cctgatctct cttgtctagt acgcacatat 550  
 gcacacaggg agacatacct cccatcatga catgggtcccc aggctggcct 600  
 gaggatgtca cagcttgagg ctgtggtgtg aaaggtggcc agcctgggtc 650  
 tcttccttgc tcaggctgcc agagaggtgg taaatggcag aaaggacatt 700  
 cccctcccc tccccaggtg acctgctctc tttcctgggc cctgcccctc 750  
 tccccacatg tatccctcgg tctgaattag acattcctgg gcacaggctc 800  
 ttgggtgcat tgctcagagt cccaggtcct ggctgaccc tcaggccctt 850  
 cacgtgaggt ctgtgaggac caatttgtgg gtagttcatc ttccctcgat 900  
 tggttaactc cttagtttca gaccacagac tcaagattgg ctcttcccag 950  
 agggcagcag acagtcaccc caaggcaggt gtagggagcc caggagggcc 1000  
 aatcagcccc ctgaagactc tgggtcccagt cagcctgtgg cttgtggcct 1050  
 gtgacctgtg accttctgcc agaattgtca tgcctctgag gccccctctt 1100  
 accacacttt accagttaac cactgaagcc cccaattccc acagcttttc 1150  
 cattaaaatg caaatggtgg tggttcaatc taatctgata ttgacatatt 1200  
 agaaggcaat tagggtgttt ccttaaaca ctcctttcca aggatcagcc 1250  
 ctgagagcag gttggtgact ttgaggaggg cagtcctctg tccagattgg 1300  
 ggtgggagca agggacaggg agcagggcag gggctgaaag gggcactgat 1350  
 tcagaccagg gaggcaacta cacaccaaca tgctggcttt agaataaaaag 1400  
 caccaactga aaaaa 1415

<210> 371  
 <211> 105  
 <212> PRT  
 <213> Homo sapiens

<400> 371  
 Met Arg Gly Ala Thr Arg Val Ser Ile Met Leu Leu Leu Val Thr  
 1 5 10 15  
 Val Ser Asp Cys Ala Val Ile Thr Gly Ala Cys Glu Arg Asp Val  
 20 25 30  
 Gln Cys Gly Ala Gly Thr Cys Cys Ala Ile Ser Leu Trp Leu Arg  
 35 40 45  
 Gly Leu Arg Met Cys Thr Pro Leu Gly Arg Glu Gly Glu Glu Cys  
 50 55 60  
 His Pro Gly Ser His Lys Val Pro Phe Phe Arg Lys Arg Lys His  
 65 70 75

His	Thr	Cys	Pro	Cys	Leu	Pro	Asn	Leu	Leu	Cys	Ser	Arg	Phe	Pro
				80				85						90
Asp	Gly	Arg	Tyr	Arg	Cys	Ser	Met	Asp	Leu	Lys	Asn	Ile	Asn	Phe
				95				100						105

<210> 372  
 <211> 1281  
 <212> DNA  
 <213> Homo sapiens

<400> 372  
 agcgcccggg cgtcggggcg gtaaaaggcc ggcagaaggg aggcacttga 50  
 gaaatgtctt tcctccagga cccaagtttc ttcacccatgg ggatgtgggc 100  
 cattggtgca ggagccctgg gggctgctgc cttggcattg ctgcttgcca 150  
 acacagacgt gtttctgtcc aagccccaga aagcgccctt ggagtacctg 200  
 gaggatatag acctgaaaac actggagaag gaaccaagga ctttcaaagc 250  
 aaaggagcta tgggaaaaaa atggagctgt gattatggcc gtgcggaggc 300  
 caggctgttt cctctgtcga gaggaagctg cggatctgtc ctccctgaaa 350  
 agcatgttgg accagctggg cgtccccctc tatgcagtgg taaaggagca 400  
 catcaggact gaagtgaagg atttcagcc ttatttcaaa ggagaaatct 450  
 tcctggatga aaagaaaaag ttctatggtc cacaaaggcg gaagatgatg 500  
 tttatgggat ttatccgtct gggagtgtgg tacaacttct tccgagcctg 550  
 gaacggaggc ttctctggaa acctggaagg agaaggcttc atccttgggg 600  
 gagttttcgt ggtgggatca ggaaagcagg gcatttctct tgagcaccga 650  
 gaaaaagaat ttggagacaa agtaaaccta ctttctgttc tggaaagctgc 700  
 taagatgata aaaccacaga ctttggcctc agagaaaaaa tgattgtgtg 750  
 aaactgcccc gctcagggat aaccaggac attcacctgt gttcatggga 800  
 tgtattgttt ccaactcgtgt ccctaaggag tgagaaacc atttatactc 850  
 tactotcagt atggattatt aatgtatatt aatattctgt ttaggcccac 900  
 taaggcaaaa tagccccaaa acaagactga caaaaatctg aaaaactaat 950  
 gaggattatt aagctaaaac ctgggaaata ggaggcttaa aattgactgc 1000  
 caggctgggt gcagtggctc acacctgtaa tcccagcact ttgggaggcc 1050  
 aaggtgagca agtcacttga ggtcgggagt tcgagaccag cctgagcaac 1100  
 atggcgaaac cccgtctcta ctaaaaatac aaaaatcacc cgggtgtggt 1150  
 ggcaggcacc tgtagtccca gctacccggg aggctgaggc aggagaatca 1200  
 cttgaacctg ggaggtggag gttgcggtga gctgagatca caccactgta 1250  
 ttccagcctg ggtgactgag actctaacta a 1281

<210> 373  
 <211> 229  
 <212> PRT  
 <213> Homo sapiens

<400> 373  
 Met Ser Phe Leu Gln Asp Pro Ser Phe Phe Thr Met Gly Met Trp  
   1                  5                  10                  15  
 Ser Ile Gly Ala Gly Ala Leu Gly Ala Ala Ala Leu Ala Leu Leu  
                   20                  25                  30  
 Leu Ala Asn Thr Asp Val Phe Leu Ser Lys Pro Gln Lys Ala Ala  
                   35                  40                  45  
 Leu Glu Tyr Leu Glu Asp Ile Asp Leu Lys Thr Leu Glu Lys Glu  
                   50                  55                  60  
 Pro Arg Thr Phe Lys Ala Lys Glu Leu Trp Glu Lys Asn Gly Ala  
                   65                  70                  75  
 Val Ile Met Ala Val Arg Arg Pro Gly Cys Phe Leu Cys Arg Glu  
                   80                  85                  90  
 Glu Ala Ala Asp Leu Ser Ser Leu Lys Ser Met Leu Asp Gln Leu  
                   95                  100                  105  
 Gly Val Pro Leu Tyr Ala Val Val Lys Glu His Ile Arg Thr Glu  
                   110                  115                  120  
 Val Lys Asp Phe Gln Pro Tyr Phe Lys Gly Glu Ile Phe Leu Asp  
                   125                  130                  135  
 Glu Lys Lys Lys Phe Tyr Gly Pro Gln Arg Arg Lys Met Met Phe  
                   140                  145                  150  
 Met Gly Phe Ile Arg Leu Gly Val Trp Tyr Asn Phe Phe Arg Ala  
                   155                  160                  165  
 Trp Asn Gly Gly Phe Ser Gly Asn Leu Glu Gly Glu Gly Phe Ile  
                   170                  175                  180  
 Leu Gly Gly Val Phe Val Val Gly Ser Gly Lys Gln Gly Ile Leu  
                   185                  190                  195  
 Leu Glu His Arg Glu Lys Glu Phe Gly Asp Lys Val Asn Leu Leu  
                   200                  205                  210  
 Ser Val Leu Glu Ala Ala Lys Met Ile Lys Pro Gln Thr Leu Ala  
                   215                  220                  225  
 Ser Glu Lys Lys

<210> 374  
 <211> 744  
 <212> DNA  
 <213> Homo sapiens

<400> 374  
 acggaccgag ggttcgaggg agggacacgg accaggaacc tgagctaggt 50  
 caaagacgcc cgggccaggt gccccgtcgc aggtgcccct ggccggagat 100

gcggtaggag gggcgagcgc gagaagcccc ttctctggcg ctgccaaccc 150  
gccaccacgc ccatggcgaa ccccgggctg gggctgcttc tggcgctggg 200  
cctgccgttc ctgctggccc gctggggccg agcctggggg caaatacaga 250  
ccacttctgc aaatgagaat agcactgttt tgccttcac caccagctcc 300  
agctccgatg gcaacctgcg tccggaagcc atcactgcta tcatcggtgt 350  
cttctccctc ttggctgcct tgctcctggc tgtggggctg gcactgttgg 400  
tgcggaagct tcgggagaag cggcagacgg agggcaccta ccggcccagt 450  
agcgaggagc agttctccca tgcagccgag gcccgggccc ctcaggactc 500  
caaggagacg gtgcagggct gcctgcccac ctaggtcccc tctcctgcat 550  
ctgtctccct tcattgctgt gtgaccttgg ggaaaggcag tgccctctct 600  
gggcagtcag atccaccacg tgcttaatag caggaagaa ggtacttcaa 650  
agactctgcc cctgaggtca agagaggatg gggctattca cttttatata 700  
tttatataaa attagtagtg agatgtaaaa aaaaaaaaaa aaaa 744

<210> 375  
<211> 123  
<212> PRT  
<213> Homo sapiens

<400> 375  
Met Ala Asn Pro Gly Leu Gly Leu Leu Leu Ala Leu Gly Leu Pro  
1 5 10 15  
Phe Leu Leu Ala Arg Trp Gly Arg Ala Trp Gly Gln Ile Gln Thr  
20 25 30  
Thr Ser Ala Asn Glu Asn Ser Thr Val Leu Pro Ser Ser Thr Ser  
35 40 45  
Ser Ser Ser Asp Gly Asn Leu Arg Pro Glu Ala Ile Thr Ala Ile  
50 55 60  
Ile Val Val Phe Ser Leu Leu Ala Ala Leu Leu Leu Ala Val Gly  
65 70 75  
Leu Ala Leu Leu Val Arg Lys Leu Arg Glu Lys Arg Gln Thr Glu  
80 85 90  
Gly Thr Tyr Arg Pro Ser Ser Glu Glu Gln Phe Ser His Ala Ala  
95 100 105  
Glu Ala Arg Ala Pro Gln Asp Ser Lys Glu Thr Val Gln Gly Cys  
110 115 120

Leu Pro Ile

<210> 376  
<211> 713  
<212> DNA  
<213> Homo sapiens

<400> 376  
aatatatcat ctatttatca ttaatcaata atgtattcctt ttattccaat 50  
aacatttggg ttttgggatt ttaattttca aacacagcag aatgacattt 100  
tttctgtcac tattattatt gttggtatgt gaagctatctt ggagatccaa 150  
ttcaggaagc aacacattgg agaattggcta ctttctatca agaaataaag 200  
agaaccacag tcaaccacac caatcatcctt tagaagacag tgtgactcct 250  
accaaagctg tcaaaaccac aggcaagggc atagttaaag gacggaatct 300  
tgactcaaga gggttaattc ttggtgctga agcctggggc aggggtgtaa 350  
agaaaaacac ttagattcaa tgattgtaaa tttaaggcaa atacacatat 400  
tagtattacc ttagtgtaat gtatccctgt catatataca ataaggtgaa 450  
attataagta ccctatgcag ttggctggac agttctaaat tggactttat 500  
taatttttaa aatcagtaac tgatttatca ctggctatgt gcttagatct 550  
acaggagatc atataatttg atacaaataa aagaaaagtg ttctctcccc 600  
ttacagaatt gacattttta atgcgataca gttagaatag gaaatatgac 650  
attagaaagg aagaatgaca gggagaaagg aaagaaggga aaatgttgcc 700  
aaggaaaaaa aaa 713

<210> 377  
<211> 90  
<212> PRT  
<213> Homo sapiens

<400> 377  
Met Thr Phe Phe Leu Ser Leu Leu Leu Leu Val Cys Glu Ala  
1 5 10 15  
Ile Trp Arg Ser Asn Ser Gly Ser Asn Thr Leu Glu Asn Gly Tyr  
20 25 30  
Phe Leu Ser Arg Asn Lys Glu Asn His Ser Gln Pro Thr Gln Ser  
35 40 45  
Ser Leu Glu Asp Ser Val Thr Pro Thr Lys Ala Val Lys Thr Thr  
50 55 60  
Gly Lys Gly Ile Val Lys Gly Arg Asn Leu Asp Ser Arg Gly Leu  
65 70 75  
Ile Leu Gly Ala Glu Ala Trp Gly Arg Gly Val Lys Lys Asn Thr  
80 85 90

<210> 378  
<211> 3265  
<212> DNA  
<213> Homo sapiens

<400> 378  
gccaggaata actagagagg aacaatgggg ttattcagag gttttgtttt 50

cctcttagtt ctgtgcctgc tgcaccagtc aaatacttcc ttcattaagc 100  
 tgaataataa tggctttgaa gatattgtca ttgttataga tcctagtgtg 150  
 ccagaagatg aaaaaataat tgaacaaata gaggatatgg tgactacagc 200  
 ttctacgtac ctgtttgaag ccacagaaaa aagatttttt ttcaaaaatg 250  
 tatctatatt aattcctgag aattggaagg aaaatcctca gtacaaaagg 300  
 ccaaaacatg aaaaccataa acatgctgat gttatagttg caccacctac 350  
 actcccaggt agagatgaac catacaccaa gcagttcaca gaatgtggag 400  
 agaaaggcga atacattcac ttcacccctg accttctact tggaaaaaaa 450  
 caaaatgaat atggaccacc aggcaactg tttgtccatg agtgggctca 500  
 cctccggtgg ggagtgtttg atgagtacaa tgaagatcag cctttctacc 550  
 gtgctaagtc aaaaaaatc gaagcaacaa ggtgttccgc aggtatctct 600  
 ggtagaaata gagtttataa gtgtcaagga ggcagctgtc ttagtagagc 650  
 atgcagaatt gattctacaa caaaactgta tggaaaagat tgtcaattct 700  
 ttctgataa agtacaaaca gaaaaagcat ccataatgtt tatgcaaagt 750  
 attgattctg ttgttgaatt ttgtaacgaa aaaaccata atcaagaagc 800  
 tccaagccta caaaacataa agtgcaattt tagaagtaca tgggaggtga 850  
 ttagcaattc tgaggatttt aaaaacacca taccatggg gacaccacct 900  
 cctccacctg tcttctcatt gctgaagatc agtcaaagaa ttgtgtgctt 950  
 agttcttgat aagtctggaa gcatgggggg taaggaccgc ctaaatoagaa 1000  
 tgaatcaagc agcaaaacat ttctgctgc agactgttga aaatggatcc 1050  
 tgggtgggga tgggttcaatt tgatagtact gccactattg taaataagct 1100  
 aatocaaata aaaagcagtg atgaaagaaa cacactcatg gcaggattac 1150  
 ctacatatcc tctgggagga acttccatct gctctggaat taaatatgca 1200  
 ttccaggtga ttggagagct acattcccaa ctcgatggat ccgaagtact 1250  
 gctgctgact gatggggagg ataacactgc aagttcttgt attgatgaag 1300  
 tgaaacaaag tggggccatt gttcatttta ttgctttggg aagagctgct 1350  
 gatgaagcag taatagagat gagcaagata acaggaggaa gtcattttta 1400  
 tgtttcagat gaagctcaga acaatggcct cattgatgct tttggggctc 1450  
 ttacatcagg aaatactgat ctctcccaga agtccttca gctcgaaagt 1500  
 aagggattaa cactgaatag taatgcctgg atgaacgaca ctgtcataat 1550  
 tgatagtaca gtgggaaagg acacgttctt tctcatcaca tggaacagtc 1600  
 tgcctcccag tatttctctc tgggatccca gtggaacaat aatggaaaat 1650



ttcacagtgg atgcaacttc caaaatggcc tatctcagta ttccaggaac 1700  
 tgcaaagggtg ggcacttggg catacaatct tcaagccaaa gcgaacccag 1750  
 aaacattaac tattacagta acttctcgag cagcaaattc ttctgtgcct 1800  
 ccaatcacag tgaatgctaa aatgaataag gacgtaaaca gtttccccag 1850  
 cccaatgatt gtttacgcag aaattctaca aggatatgta cctgttcttg 1900  
 gagccaatgt gactgctttc attgaatcac agaattggaca tacagaagtt 1950  
 ttggaacttt tggataatgg tgcaggcgct gattctttca agaattgatg 2000  
 agtctactcc aggtatttta cagcatatac agaaaatggc agatatagct 2050  
 taaaagttcg ggctcatgga ggagcaaaca ctgccaggct aaaattacgg 2100  
 cctccactga atagagccgc gtacatacca ggctgggtag tgaacgggga 2150  
 aattgaagca aacccgcca gacctgaaat tgatgaggat actcagacca 2200  
 ccttgaggga tttcagccga acagcatccg gaggtgcatt tgtggtatca 2250  
 caagtcccaa gccttccctt gcctgaccaa taccaccaa gtcaaatcac 2300  
 agaccttgat gccacagttc atgaggataa gattattctt acatggacag 2350  
 caccaggaga taattttgat gttggaagag ttcaacgtta tatcataaga 2400  
 ataagtgcaa gtattcttga tctaagagac agttttgatg atgctcttca 2450  
 agtaaatact actgatctgt caccaaagga ggccaactcc aaggaaagct 2500  
 ttgcatthaa accagaaaat atctcagaag aaaatgcaac ccacatattt 2550  
 attgccatta aaagtataga taaaagcaat ttgacatcaa aagtatccaa 2600  
 cattgcacaa gtaactttgt ttatccctca agcaaactct gatgacattg 2650  
 atcctacacc tactctact cctactccta ctctgataa aagtcataat 2700  
 tctggagtta atattttctac gctgggtattg tctgtgattg ggtctgttgt 2750  
 aattgttaac tttattttta gtaccaccat ttgaacctta acgaagaaaa 2800  
 aaatcttcaa gtagacctag aagagagttt taaaaaaca aacaatgtaa 2850  
 gtaaaggata tttctgaatc ttaaaattca tcccatgtgt gatcataaac 2900  
 tcataaaaat aattttaaga tgtcggaaaa ggatactttg attaaataaa 2950  
 aacactcatg gatatgtaaa aactgtcaag attaaaattt aatagtttca 3000  
 tttatttggtt attttatttg taagaaatag tgatgaacaa agatcctttt 3050  
 tcatactgat acctggttgt atattatttg atgcaacagt tttctgaaat 3100  
 gatatttcaa attgcatcaa gaaattaaaa tcattctatct gagtagtcaa 3150  
 aatacaagta aaggagagca aataaacaac atttgaaaa aaaaaaaaaa 3200  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3250

aaaaaaaaaa aaaaa 3265

<210> 379

<211> 919

<212> PRT

<213> Homo sapiens

<400> 379

Met Gly Leu Phe Arg Gly Phe Val Phe Leu Leu Val Leu Cys Leu  
1 5 10 15

Leu His Gln Ser Asn Thr Ser Phe Ile Lys Leu Asn Asn Asn Gly  
20 25 30

Phe Glu Asp Ile Val Ile Val Ile Asp Pro Ser Val Pro Glu Asp  
35 40 45

Glu Lys Ile Ile Glu Gln Ile Glu Asp Met Val Thr Thr Ala Ser  
50 55 60

Thr Tyr Leu Phe Glu Ala Thr Glu Lys Arg Phe Phe Phe Lys Asn  
65 70 75

Val Ser Ile Leu Ile Pro Glu Asn Trp Lys Glu Asn Pro Gln Tyr  
80 85 90

Lys Arg Pro Lys His Glu Asn His Lys His Ala Asp Val Ile Val  
95 100 105

Ala Pro Pro Thr Leu Pro Gly Arg Asp Glu Pro Tyr Thr Lys Gln  
110 115 120

Phe Thr Glu Cys Gly Glu Lys Gly Glu Tyr Ile His Phe Thr Pro  
125 130 135

Asp Leu Leu Leu Gly Lys Lys Gln Asn Glu Tyr Gly Pro Pro Gly  
140 145 150

Lys Leu Phe Val His Glu Trp Ala His Leu Arg Trp Gly Val Phe  
155 160 165

Asp Glu Tyr Asn Glu Asp Gln Pro Phe Tyr Arg Ala Lys Ser Lys  
170 175 180

Lys Ile Glu Ala Thr Arg Cys Ser Ala Gly Ile Ser Gly Arg Asn  
185 190 195

Arg Val Tyr Lys Cys Gln Gly Gly Ser Cys Leu Ser Arg Ala Cys  
200 205 210

Arg Ile Asp Ser Thr Thr Lys Leu Tyr Gly Lys Asp Cys Gln Phe  
215 220 225

Phe Pro Asp Lys Val Gln Thr Glu Lys Ala Ser Ile Met Phe Met  
230 235 240

Gln Ser Ile Asp Ser Val Val Glu Phe Cys Asn Glu Lys Thr His  
245 250 255

Asn Gln Glu Ala Pro Ser Leu Gln Asn Ile Lys Cys Asn Phe Arg  
260 265 270

Ser Thr Trp Glu Val Ile Ser Asn Ser Glu Asp Phe Lys Asn Thr

				275					280					285
Ile	Pro	Met	Val	Thr 290	Pro	Pro	Pro	Pro	Pro 295	Val	Phe	Ser	Leu	Leu 300
Lys	Ile	Ser	Gln	Arg 305	Ile	Val	Cys	Leu	Val 310	Leu	Asp	Lys	Ser	Gly 315
Ser	Met	Gly	Gly	Lys 320	Asp	Arg	Leu	Asn	Arg 325	Met	Asn	Gln	Ala	Ala 330
Lys	His	Phe	Leu	Leu 335	Gln	Thr	Val	Glu	Asn 340	Gly	Ser	Trp	Val	Gly 345
Met	Val	His	Phe	Asp 350	Ser	Thr	Ala	Thr	Ile 355	Val	Asn	Lys	Leu	Ile 360
Gln	Ile	Lys	Ser	Ser 365	Asp	Glu	Arg	Asn	Thr 370	Leu	Met	Ala	Gly	Leu 375
Pro	Thr	Tyr	Pro	Leu 380	Gly	Gly	Thr	Ser	Ile 385	Cys	Ser	Gly	Ile	Lys 390
Tyr	Ala	Phe	Gln	Val 395	Ile	Gly	Glu	Leu	His 400	Ser	Gln	Leu	Asp	Gly 405
Ser	Glu	Val	Leu	Leu 410	Leu	Thr	Asp	Gly	Glu 415	Asp	Asn	Thr	Ala	Ser 420
Ser	Cys	Ile	Asp	Glu 425	Val	Lys	Gln	Ser	Gly 430	Ala	Ile	Val	His	Phe 435
Ile	Ala	Leu	Gly	Arg 440	Ala	Ala	Asp	Glu	Ala 445	Val	Ile	Glu	Met	Ser 450
Lys	Ile	Thr	Gly	Gly 455	Ser	His	Phe	Tyr	Val 460	Ser	Asp	Glu	Ala	Gln 465
Asn	Asn	Gly	Leu	Ile 470	Asp	Ala	Phe	Gly	Ala 475	Leu	Thr	Ser	Gly	Asn 480
Thr	Asp	Leu	Ser	Gln 485	Lys	Ser	Leu	Gln	Leu 490	Glu	Ser	Lys	Gly	Leu 495
Thr	Leu	Asn	Ser	Asn 500	Ala	Trp	Met	Asn	Asp 505	Thr	Val	Ile	Ile	Asp 510
Ser	Thr	Val	Gly	Lys 515	Asp	Thr	Phe	Phe	Leu 520	Ile	Thr	Trp	Asn	Ser 525
Leu	Pro	Pro	Ser	Ile 530	Ser	Leu	Trp	Asp	Pro 535	Ser	Gly	Thr	Ile	Met 540
Glu	Asn	Phe	Thr	Val 545	Asp	Ala	Thr	Ser	Lys 550	Met	Ala	Tyr	Leu	Ser 555
Ile	Pro	Gly	Thr	Ala 560	Lys	Val	Gly	Thr	Trp 565	Ala	Tyr	Asn	Leu	Gln 570
Ala	Lys	Ala	Asn	Pro 575	Glu	Thr	Leu	Thr	Ile 580	Thr	Val	Thr	Ser	Arg 585
Ala	Ala	Asn	Ser	Ser	Val	Pro	Pro	Ile	Thr	Val	Asn	Ala	Lys	Met

				590					595					600
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Glu	Ile	Leu	Gln	Gly 620	Tyr	Val	Pro	Val	Leu 625	Gly	Ala	Asn	Val	Thr 630
Ala	Phe	Ile	Glu	Ser 635	Gln	Asn	Gly	His	Thr 640	Glu	Val	Leu	Glu	Leu 645
Leu	Asp	Asn	Gly	Ala 650	Gly	Ala	Asp	Ser	Phe 655	Lys	Asn	Asp	Gly	Val 660
Tyr	Ser	Arg	Tyr	Phe 665	Thr	Ala	Tyr	Thr	Glu 670	Asn	Gly	Arg	Tyr	Ser 675
Leu	Lys	Val	Arg	Ala 680	His	Gly	Gly	Ala	Asn 685	Thr	Ala	Arg	Leu	Lys 690
Leu	Arg	Pro	Pro	Leu 695	Asn	Arg	Ala	Ala	Tyr 700	Ile	Pro	Gly	Trp	Val 705
Val	Asn	Gly	Glu	Ile 710	Glu	Ala	Asn	Pro	Pro 715	Arg	Pro	Glu	Ile	Asp 720
Glu	Asp	Thr	Gln	Thr 725	Thr	Leu	Glu	Asp	Phe 730	Ser	Arg	Thr	Ala	Ser 735
Gly	Gly	Ala	Phe	Val 740	Val	Ser	Gln	Val	Pro 745	Ser	Leu	Pro	Leu	Pro 750
Asp	Gln	Tyr	Pro	Pro 755	Ser	Gln	Ile	Thr	Asp 760	Leu	Asp	Ala	Thr	Val 765
His	Glu	Asp	Lys	Ile 770	Ile	Leu	Thr	Trp	Thr 775	Ala	Pro	Gly	Asp	Asn 780
Phe	Asp	Val	Gly	Lys 785	Val	Gln	Arg	Tyr	Ile 790	Ile	Arg	Ile	Ser	Ala 795
Ser	Ile	Leu	Asp	Leu 800	Arg	Asp	Ser	Phe	Asp 805	Asp	Ala	Leu	Gln	Val 810
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Phe	Ala	Phe	Lys	Pro 830	Glu	Asn	Ile	Ser	Glu 835	Glu	Asn	Ala	Thr	His 840
Ile	Phe	Ile	Ala	Ile 845	Lys	Ser	Ile	Asp	Lys 850	Ser	Asn	Leu	Thr	Ser 855
Lys	Val	Ser	Asn	Ile 860	Ala	Gln	Val	Thr	Leu 865	Phe	Ile	Pro	Gln	Ala 870
Asn	Pro	Asp	Asp	Ile 875	Asp	Pro	Thr	Pro	Thr 880	Pro	Thr	Pro	Thr	Pro 885
Thr	Pro	Asp	Lys	Ser 890	His	Asn	Ser	Gly	Val 895	Asn	Ile	Ser	Thr	Leu 900
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Ser Thr Thr Ile

<210> 380

<211> 3877

<212> DNA

<213> Homo sapiens

<400> 380

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ccccagttat gccaggattt actagagagt gtcaactcaa ccagcaagcg 250
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Glu	Gln	Leu	Arg	Asn	Gly	Gln	Tyr	Gln	Ala	Ser	Asp	Ala	Ala	Gly	
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Leu	Gly	Leu	Asp	Arg	Ser	Pro	Pro	Glu	Lys	Thr	Gln	Ala	Asp	Leu	
				110					115					120	
Leu	Ala	Phe	Leu	His	Ser	Gln	Val	Asp	Lys	Ala	Glu	Val	Asn	Ala	
				125					130					135	
Gly	Val	Lys	Leu	Ala	Thr	Glu	Tyr	Ala	Ala	Val	Pro	Phe	Asp	Ser	
				140					145					150	
Phe	Thr	Leu	Gln	Lys	Val	Tyr	Gln	Leu	Glu	Thr	Gly	Leu	Thr	Arg	
				155					160					165	
His	Pro	Glu	Glu	Lys	Pro	Val	Arg	Lys	Asp	Lys	Arg	Asp	Glu	Leu	
				170					175					180	
Val	Glu	Ala	Ile	Glu	Ser	Ala	Leu	Glu	Thr	Leu	Asn	Asn	Pro	Ala	
				185					190					195	
Glu	Asn	Ser	Pro	Asn	His	Arg	Pro	Tyr	Thr	Ala	Ser	Asp	Phe	Ile	
				200					205					210	
Glu	Gly	Ile	Tyr	Arg	Thr	Glu	Arg	Asp	Lys	Gly	Thr	Leu	Tyr	Glu	
				215					220					225	
Leu	Thr	Phe	Lys	Gly	Asp	His	Lys	His	Glu	Phe	Lys	Arg	Leu	Ile	
				230					235					240	
Leu	Phe	Arg	Pro	Phe	Ser	Pro	Ile	Met	Lys	Val	Lys	Asn	Glu	Lys	
				245					250					255	
Leu	Asn	Met	Ala	Asn	Thr	Leu	Ile	Asn	Val	Ile	Val	Pro	Leu	Ala	
				260					265					270	
Lys	Arg	Val	Asp	Lys	Phe	Arg	Gln	Phe	Met	Gln	Asn	Phe	Arg	Glu	
				275					280					285	
Met	Cys	Ile	Glu	Gln	Asp	Gly	Arg	Val	His	Leu	Thr	Val	Val	Tyr	
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Phe	Gly	Lys	Glu	Glu	Ile	Asn	Glu	Val	Lys	Gly	Ile	Leu	Glu	Asn	
				305					310					315	
Thr	Ser	Lys	Ala	Ala	Asn	Phe	Arg	Asn	Phe	Thr	Phe	Ile	Gln	Leu	
				320					325					330	
Asn	Gly	Glu	Phe	Ser	Arg	Gly	Lys	Gly	Leu	Asp	Val	Gly	Ala	Arg	
				335					340					345	
Phe	Trp	Lys	Gly	Ser	Asn	Val	Leu	Leu	Phe	Phe	Cys	Asp	Val	Asp	
				350					355					360	
Ile	Tyr	Phe	Thr	Ser	Glu	Phe	Leu	Asn	Thr	Cys	Arg	Leu	Asn	Thr	
				365					370					375	
Gln	Pro	Gly	Lys	Lys	Val	Phe	Tyr	Pro	Val	Leu	Phe	Ser	Gln	Tyr	
				380					385					390	
Asn	Pro	Gly	Ile	Ile	Tyr	Gly	His	His	Asp	Ala	Val	Pro	Pro	Leu	
				395					400					405	



Glu Gln Gln Leu Val Ile Lys Lys Glu Thr Gly Phe Trp Arg Asp  
410 415 420

Phe Gly Phe Gly Met Thr Cys Gln Tyr Arg Ser Asp Phe Ile Asn  
425 430 435

Ile Gly Gly Phe Asp Leu Asp Ile Lys Gly Trp Gly Gly Glu Asp  
440 445 450

Val His Leu Tyr Arg Lys Tyr Leu His Ser Asn Leu Ile Val Val  
455 460 465

Arg Thr Pro Val Arg Gly Leu Phe His Leu Trp His Glu Lys Arg  
470 475 480

Cys Met Asp Glu Leu Thr Pro Glu Gln Tyr Lys Met Cys Met Gln  
485 490 495

Ser Lys Ala Met Asn Glu Ala Ser His Gly Gln Leu Gly Met Leu  
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Val Phe Arg His Glu Ile Glu Ala His Leu Arg Lys Gln Lys Gln  
515 520 525

Lys Thr Ser Ser Lys Lys Thr  
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<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 382

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<210> 383

<211> 26

<212> DNA

<213> Artificial Sequence

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<223> Synthetic oligonucleotide probe

<400> 383

gcgaagggtga gcctctatct cgtgcc 26

<210> 384

<211> 19

<212> DNA

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<223> Synthetic oligonucleotide probe

<400> 384

cagcctacac gtattgagg 19

<210> 385

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<212> DNA

<213> Artificial Sequence

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<400> 385

cagtcagtagc aatcctggca taatatacgg ccaccatgat gcagtccc 48

<210> 386

<211> 1346

<212> DNA

<213> Homo sapiens

<400> 386

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gaacagctct gggagataaa gcatatgcct gggataccaa tgaagaatac 150  
ctcttcaaag cgatggtagc tttctccatg agaaaagttc ccaacagaga 200  
agcaacagaa atttcccatg tctactttg caatgtaacc cagagggtat 250  
cattctgggt tgtgggttaca gacccttcaa aaaatcacac ctttctgct 300  
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agtaataatc atctctttttt aaaaaaaaaa aaaaaaaaaa aaaaaa 1346

<210> 387

<211> 212

<212> PRT

<213> Homo sapiens

<400> 387

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Ile Arg Thr Ala Leu Gly Asp Lys Ala Tyr Ala Trp Asp Thr Asn  
35 40 45

Glu Glu Tyr Leu Phe Lys Ala Met Val Ala Phe Ser Met Arg Lys  
50 55 60

Val Pro Asn Arg Glu Ala Thr Glu Ile Ser His Val Leu Leu Cys  
65 70 75

Asn Val Thr Gln Arg Val Ser Phe Trp Phe Val Val Thr Asp Pro  
80 85 90

Ser Lys Asn His Thr Leu Pro Ala Val Glu Val Gln Ser Ala Ile  
95 100 105

Arg Met Asn Lys Asn Arg Ile Asn Asn Ala Phe Phe Leu Asn Asp  
110 115 120

Gln Thr Leu Glu Phe Leu Lys Ile Pro Ser Thr Leu Ala Pro Pro  
125 130 135

Met Asp Pro Ser Val Pro Ile Trp Ile Ile Ile Phe Gly Val Ile  
140 145 150

Phe Cys Ile Ile Ile Val Ala Ile Ala Leu Leu Ile Leu Ser Gly  
155 160 165

Ile Trp Gln Arg Arg Arg Lys Asn Lys Glu Pro Ser Glu Val Asp  
170 175 180

Asp Ala Glu Asp Lys Cys Glu Asn Met Ile Thr Ile Glu Asn Gly  
185 190 195

Ile Pro Ser Asp Pro Leu Asp Met Lys Gly Gly Ile Leu Met Met  
200 205 210

Pro Ser

<210> 388

<211> 1371

<212> DNA

<213> Homo sapiens

<400> 388

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 cttcttctcc ttggcataca gctcacagct ctttggccta tagcagctgt 200  
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<210> 389  
 <211> 215  
 <212> PRT  
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<400> 389  
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 Thr Ser Arg Val Leu Glu Ala Val Asn Gly Thr Asp Ala Arg Leu  
 35 40 45  
 Lys Cys Thr Phe Ser Ser Phe Ala Pro Val Gly Asp Ala Leu Thr  
 50 55 60  
 Val Thr Trp Asn Phe Arg Pro Leu Asp Gly Gly Pro Glu Gln Phe  
 65 70 75  
 Val Phe Tyr Tyr His Ile Asp Pro Phe Gln Pro Met Ser Gly Arg  
 80 85 90  
 Phe Lys Asp Arg Val Ser Trp Asp Gly Asn Pro Glu Arg Tyr Asp  
 95 100 105  
 Ala Ser Ile Leu Leu Trp Lys Leu Gln Phe Asp Asp Asn Gly Thr  
 110 115 120  
 Tyr Thr Cys Gln Val Lys Asn Pro Pro Asp Val Asp Gly Val Ile  
 125 130 135  
 Gly Glu Ile Arg Leu Ser Val Val His Thr Val Arg Phe Ser Glu  
 140 145 150  
 Ile His Phe Leu Ala Leu Ala Ile Gly Ser Ala Cys Ala Leu Met  
 155 160 165  
 Ile Ile Ile Val Ile Val Val Val Leu Phe Gln His Tyr Arg Lys  
 170 175 180  
 Lys Arg Trp Ala Glu Arg Ala His Lys Val Val Glu Ile Lys Ser  
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 Lys Glu Glu Glu Arg Leu Asn Gln Glu Lys Lys Val Ser Val Tyr  
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<220>  
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<400> 391  
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<210> 392  
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<212> DNA  
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<220>  
<223> Synthetic oligonucleotide probe

<400> 392  
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<210> 393  
<211> 471  
<212> DNA  
<213> Homo sapiens

<400> 393  
gcatttttgt ctgtgctccc tgatcttcag gtcaccacca tgaagttctt 50  
agcagtcctg gtactcttgg gagtttccat ctttctggtc tctgcccaga 100  
atccgacaac agctgctcca gctgacacgt atccagctac tggtoctgct 150  
gatgatgaag cccctgatgc tgaaccact gctgctgcaa ccaactgcgac 200  
cactgctgct cctaccactg caaccaccgc tgcttctacc actgctcgta 250  
aagacattcc agttttaccc aaatgggttg gggatctccc gaatggtaga 300  
gtgtgtccct gagatggaat cagcttgagt cttctgcaat tggtcacaac 350  
tattcatgct tcctgtgatt tcatccaact acttaccttg cctacgatat 400  
cccctttatc tctaatacgt ttattttctt tcaaataaaa aataactatg 450  
agcaacataa aaaaaaaaaa a 471

<210> 394  
<211> 90  
<212> PRT  
<213> Homo sapiens

<400> 394  
Met Lys Phe Leu Ala Val Leu Val Leu Leu Gly Val Ser Ile Phe  
1 5 10 15  
Leu Val Ser Ala Gln Asn Pro Thr Thr Ala Ala Pro Ala Asp Thr  
20 25 30  
Tyr Pro Ala Thr Gly Pro Ala Asp Asp Glu Ala Pro Asp Ala Glu  
35 40 45  
Thr Thr Ala Ala Ala Thr Thr Ala Thr Thr Ala Ala Pro Thr Thr  
50 55 60  
Ala Thr Thr Ala Ala Ser Thr Thr Ala Arg Lys Asp Ile Pro Val  
65 70 75  
Leu Pro Lys Trp Val Gly Asp Leu Pro Asn Gly Arg Val Cys Pro  
80 85 90

<210> 395  
<211> 25

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 395  
gctccctgat cttcatgtca ccacc 25

<210> 396  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 396  
cagggacaca ctctaccatt cgggag 26

<210> 397  
<211> 42  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 397  
ccatctttct ggtctctgcc cagaatccga caacagctgc tc 42

<210> 398  
<211> 907  
<212> DNA  
<213> Homo sapiens

<400> 398  
ggactctgaa ggtcccaagc agctgctgag gcccccaagg aagtgggttc 50  
aaccttggac ccctaggggt ctggatttgc tggtaacaa gataacctga 100  
gggcaggacc ccatagggga atgctacctc ctgcccttcc acctgccctg 150  
gtgttcacgg tggcctggtc cctccttgcc gagagagtgt cctgggtcag 200  
ggacgcagag gacgctcaca gactccagcc ctttgttacc gagaggacac 250  
ttggcaaggt ccagcgatgg tccggagtcc acacacagac tggcggcagg 300  
gcaggagggg gacagttctg ttgtgcttgg ttggacagta agaggggtct 350  
ggccagtcca ggggtggggg cggcaaactc cataaagaac cagaggggtct 400  
gggccccggc cacagagtca tctgccagc tcctctgctg ctggccagtg 450  
ggagtggcac gaggtggggc tttgtgccag taaaaccaca ggctggattt 500  
gcctgcgggc catggtccct gtctagggca gcaattctca accttcttgc 550  
tctcaggacc ccaaagagct ttcattgtat ctattgattt ttaccacatt 600  
agcaattaaa actgagaaat gggccgggca cggtggtca cgctgtaat 650

cccagcactt tgggaggccg aggcgggtgg atcacctgag atcaggagtt 700  
 caagaccagc ctggccaaca tggtgaaacc ttgtctacta aaaatacaaa 750  
 aaattagcca ggcacagtgg tgtgactgg tagtcccagt tactcgggag 800  
 gctgaggcag gaaaatcgct tgaacccagg aggcggacgt tgcggtgagc 850  
 cgagatcgcg ccgctgattc cagcctgggc gacaagagtg agactccatc 900  
 tcacaca 907

<210> 399  
 <211> 120  
 <212> PRT  
 <213> Homo sapiens

<400> 399  
 Met Leu Pro Pro Ala Leu Pro Pro Ala Leu Val Phe Thr Val Ala  
 1 5 10 15  
 Trp Ser Leu Leu Ala Glu Arg Val Ser Trp Val Arg Asp Ala Glu  
 20 25 30  
 Asp Ala His Arg Leu Gln Pro Phe Val Thr Glu Arg Thr Leu Gly  
 35 40 45  
 Lys Val Gln Arg Trp Ser Gly Val His Thr Gln Thr Gly Gly Arg  
 50 55 60  
 Ala Gly Gly Gly Gln Phe Cys Cys Ala Trp Leu Asp Ser Lys Arg  
 65 70 75  
 Val Leu Ala Ser Pro Gly Trp Gly Ala Ala Asn Ser Ile Lys Asn  
 80 85 90  
 Gln Arg Val Trp Ala Pro Ala Thr Glu Ser Ser Ala Gln Leu Leu  
 95 100 105  
 Cys Cys Trp Pro Val Gly Val Ala Arg Gly Gly Ala Leu Cys Gln  
 110 115 120

<210> 400  
 <211> 893  
 <212> DNA  
 <213> Homo sapiens

<400> 400  
 gtcatgccag tgccctgctct gtgcctgctc tgggccctgg caatggtgac 50  
 ccggcctgcc tcagcggccc ccatgggcgg ccagaaactg gcacagcatg 100  
 aggagctgac cctgctcttc catgggaccc tgcagctggg ccaggccctc 150  
 aacggtgtgt acaggaccac ggagggacgg ctgacaaagg ccaggaacag 200  
 cctgggtctc tatggccgca caatagaact cctggggcag gaggtcagcc 250  
 ggggccggga tgcagcccag gaacttcggg caagcctgtt ggagactcag 300  
 atggaggagg atattctgca gctgcaggca gaggccacag ctgaggtgct 350  
 gggggagggtg gccaggcac agaaggtgct acgggacagc gtgcagcggc 400



tagaagtcca gctgaggagc gcctggctgg gccctgccta ccgagaattt 450  
 gaggtcttaa aggctcacgc tgacaagcag agccacatcc tatgggccct 500  
 cacaggccac gtgcagcggc agaggcggga gatggtggca cagcagcatc 550  
 ggctgcgaca gatccaggag agactccaca cagcggcgct cccagcctga 600  
 atctgcctgg atggaactga ggaccaatca tgctgcaagg aacacttcca 650  
 cgccccgtga ggccccgtg cagggaggag ctgcctgttc actgggatca 700  
 gccagggcgc cgggccccac ttctgagcac agagcagaga cagacgcagg 750  
 cggggacaaa ggagaggat gtagcccat tggggagggg tggaggaagg 800  
 acatgtaccc ttctatgcct acacaccct cattaaagca gagtcgtggc 850  
 atttcaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaa 893

<210> 401  
 <211> 198  
 <212> PRT  
 <213> Homo sapiens

<400> 401  
 Met Pro Val Pro Ala Leu Cys Leu Leu Trp Ala Leu Ala Met Val  
 1 5 10 15  
 Thr Arg Pro Ala Ser Ala Ala Pro Met Gly Gly Pro Glu Leu Ala  
 20 25 30  
 Gln His Glu Glu Leu Thr Leu Leu Phe His Gly Thr Leu Gln Leu  
 35 40 45  
 Gly Gln Ala Leu Asn Gly Val Tyr Arg Thr Thr Glu Gly Arg Leu  
 50 55 60  
 Thr Lys Ala Arg Asn Ser Leu Gly Leu Tyr Gly Arg Thr Ile Glu  
 65 70 75  
 Leu Leu Gly Gln Glu Val Ser Arg Gly Arg Asp Ala Ala Gln Glu  
 80 85 90  
 Leu Arg Ala Ser Leu Leu Glu Thr Gln Met Glu Glu Asp Ile Leu  
 95 100 105  
 Gln Leu Gln Ala Glu Ala Thr Ala Glu Val Leu Gly Glu Val Ala  
 110 115 120  
 Gln Ala Gln Lys Val Leu Arg Asp Ser Val Gln Arg Leu Glu Val  
 125 130 135  
 Gln Leu Arg Ser Ala Trp Leu Gly Pro Ala Tyr Arg Glu Phe Glu  
 140 145 150  
 Val Leu Lys Ala His Ala Asp Lys Gln Ser His Ile Leu Trp Ala  
 155 160 165  
 Leu Thr Gly His Val Gln Arg Gln Arg Arg Glu Met Val Ala Gln  
 170 175 180  
 Gln His Arg Leu Arg Gln Ile Gln Glu Arg Leu His Thr Ala Ala

Leu Pro Ala

<210> 402  
 <211> 1915  
 <212> DNA  
 <213> Homo sapiens

<400> 402  
 ggcaacatgg ctcagcaggc ttgccccaga gccatggcaa agaatggact 50  
 tgtaatttgc atcctggtga tcaccttact cctggaccag accaccagcc 100  
 acacatccag attaaaaagcc aggaagcaca gcaaacgtcg agtgagagac 150  
 aaggatggag atctgaagac tcaaattgaa aagctctgga cagaagtcaa 200  
 tgccttgaag gaaattcaag ccctgcagac agtctgtctc cgaggcacta 250  
 aagttcacia gaaatgctac cttgcttcag aaggtttgaa gcatttccat 300  
 gaggccaatg aagactgcat ttccaaagga ggaatcctgg ttatccccag 350  
 gaactccgac gaaatcaacg ccctccaaga ctatggtaaa aggagcctgc 400  
 cagggtgtcaa tgacttttgg ctgggcatca atgacatggt cacggaaggc 450  
 aagtttggtg acgtcaacgg aatcgctatc tccttctcca actgggaccg 500  
 tgcacagcct aacggtggca agcgagaaaa ctgtgtctctg ttctcccaat 550  
 cagctcaggg caagtggagt gatgaggcct gtgcgagcag caagagatac 600  
 atatgagagt tcaccatccc taaatagggtc tttctccaat gtgtcctcca 650  
 agcaagattc atcataactt ataggttcat gatctctaag atcaagtaaa 700  
 aatcataatt tttacttatt aaaaaattgc aacacaagat caatgtccat 750  
 agcaatatga tagcatcagc caattttgct aacacatttc tttgggattt 800  
 tgcccttctc ggggtatagg ggatcagaaa tattgatcca tgtgcacgca 850  
 gataaaatgg cttctgctaa acagactaaa atctttctct ctagtctttc 900  
 tcacttgtag aaaccagtt tgttttcaaa aaatcacagt agcaatgcaa 950  
 ctcatcactc tagaaaagca agcttaggct acctgaaaga ttttcccttg 1000  
 gaagtttagc gtatgtttga ctaacaaaaa ttccctacat cagagactct 1050  
 aggtgctata taatccaaaa acttttcagc ctgttgctca ttctgtcca 1100  
 tgctggcaat aataccttgt cagccatta cccttatttt gaattgctcc 1150  
 atctcctggt gggacttgta tctgtctgc catatcagaa cacaaccccc 1200  
 tgaagagggt ctgatttgat ttttttttt tcttcatgcc tacccttttt 1250  
 ttggaagttt ccagccgcaa ttgaaatga aatgacaagg tgttatattg 1300

atcaattttc attcccacca ttgcattaca acctctaact taaatgggta 1350  
 accctaaggc atatcaaaga agcagattgc atgataaacg gaaatagaaa 1400  
 aaaagaacct acattttattt tgcttttagca tccttactct caccttttat 1450  
 gagattgaga gtggacttac atttcctttt ttacattttc gtatatttat 1500  
 ttttttttagc catcattata tgtttaagtc tattatgggc aaccaatctt 1550  
 tggaagctga aaactgaatt taaagaatgc tatcttgga aattgcatac 1600  
 gtctgtgcaa ttttttattc tgcctagtgc tattctgctt gtttaactag 1650  
 attgtacaaa ataacttcat tgcttaatat caaattacaa agtttagact 1700  
 tggagggaaa tgggcttttt agaagcaaac aatttttaaat atattttgtt 1750  
 cttcaaataa atagtgttta aacattgaat gtgttttgtg aacaatatcc 1800  
 cactttgcaa actttaacta cacatgcttg gaattaagtt ttagctgttt 1850  
 tcattgctca ataataaagc ctgaattctg atcaataaaa aaaaaaaaaa 1900  
 aaaaaaaaaa aaaaa 1915

<210> 403  
 <211> 206  
 <212> PRT  
 <213> Homo sapiens

<400> 403  
 Met Ala Gln Gln Ala Cys Pro Arg Ala Met Ala Lys Asn Gly Leu  
 1 5 10 15  
 Val Ile Cys Ile Leu Val Ile Thr Leu Leu Leu Asp Gln Thr Thr  
 20 25 30  
 Ser His Thr Ser Arg Leu Lys Ala Arg Lys His Ser Lys Arg Arg  
 35 40 45  
 Val Arg Asp Lys Asp Gly Asp Leu Lys Thr Gln Ile Glu Lys Leu  
 50 55 60  
 Trp Thr Glu Val Asn Ala Leu Lys Glu Ile Gln Ala Leu Gln Thr  
 65 70 75  
 Val Cys Leu Arg Gly Thr Lys Val His Lys Lys Cys Tyr Leu Ala  
 80 85 90  
 Ser Glu Gly Leu Lys His Phe His Glu Ala Asn Glu Asp Cys Ile  
 95 100 105  
 Ser Lys Gly Gly Ile Leu Val Ile Pro Arg Asn Ser Asp Glu Ile  
 110 115 120  
 Asn Ala Leu Gln Asp Tyr Gly Lys Arg Ser Leu Pro Gly Val Asn  
 125 130 135  
 Asp Phe Trp Leu Gly Ile Asn Asp Met Val Thr Glu Gly Lys Phe  
 140 145 150  
 Val Asp Val Asn Gly Ile Ala Ile Ser Phe Leu Asn Trp Asp Arg

	155		160		165
Ala Gln Pro Asn Gly Gly Lys Arg Glu Asn Cys Val Leu Phe Ser					
	170		175		180
Gln Ser Ala Gln Gly Lys Trp Ser Asp Glu Ala Cys Arg Ser Ser					
	185		190		195
Lys Arg Tyr Ile Cys Glu Phe Thr Ile Pro Lys					
	200		205		

<210> 404  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 404  
 cctggttatc cccaggaact ccgac 25

<210> 405  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 405  
 ctcttgctgc tgcgacaggc ctc 23

<210> 406  
 <211> 46  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 406  
 cgccctccaa gactatggta aaaggagcct gccaggtgtc aatgac 46

<210> 407  
 <211> 570  
 <212> DNA  
 <213> Homo sapiens

<400> 407  
 gcgaggaccg ggtataagaa gcctcgtggc cttgcccggg cagccgcagg 50  
 ttccccgcgc gccccgagcc cccgcgccat gaagctcgcc gccctcctgg 100  
 ggctctgcgt ggccctgtcc tgcagctccg ctgctgcttt cttagtgggc 150  
 tcggccaagc ctgtggccca gcctgtcgct gcgctggagt cggcggcgga 200  
 ggccgggggc gggaccctgg ccaacccct cggcaccctc aaccgcgtga 250  
 agctcctgct gagcagcctg ggcaccccg tgaaccacct catagagggc 300  
 tcccagaagt gtgtggctga gctgggtccc caggccgtgg gggccgtgaa 350

[illegible]

<400> 408

<400> 409

353

ggctcctgcc ttccctcttt aagggactca gagagaccct ctcccgcaac 550  
 ctggaactgg gcctctcaca ggggagtttt gccttcatcc acaaggattt 600  
 tgatgtcaaa gagactttct tcaatttatc caagaggtat ttgatacag 650  
 agtgcggtgcc tatgaatttt cgcaatgcct cacaggccaa aaggctcatg 700  
 aatcattaca ttaacaaaga gactcggggg aaaattccca aactgtttga 750  
 tgagattaat cctgaaacca aattaattct tgtggattac atcttgttca 800  
 aagggaatg gttgaccca tttgacctg tcttcaccga agtcgacact 850  
 ttccacctgg acaagtacaa gaccattaag gtgcccata tgtacgggtgc 900  
 aggcaagttt gcctccacct ttgacaagaa ttttcgttgt catgtcctca 950  
 aactgcccta ccaaggaaat gccaccatgc tgggtggtcct catggagaaa 1000  
 atgggtgacc acctcgccct tgaagactac ctgaccacag acttggtgga 1050  
 gacatggctc agaaacatga aaaccagaaa catggaagtt ttctttccga 1100  
 agttcaagct agatcagaag tatgagatgc atgagctgct taggcagatg 1150  
 ggaatcagaa gaatcttctc accctttgct gaccttagtg aactctcagc 1200  
 tactggaaga aatctccaag tatccagggt tttacgaaga acagtgattg 1250  
 aagttgatga aaggggcact gaggcagtgg caggaatctt gtcagaaatt 1300  
 actgcttatt ccatgcctcc tgtcatcaaa gtggaccggc catttcattt 1350  
 catgatctat gaagaaacct ctggaatgct tctgtttctg ggcaggggtg 1400  
 tgaatccgac tctcctataa ttcaggacat gcataagcac ttogtgctgt 1450  
 agtagatgct gaatctgagg tatcaaacac acacaggata ccagcaatgg 1500  
 atggcagggg agagtgttcc tttgttctt aactagttaa ggggtgttctc 1550  
 aaataaatac agtagtcccc acttatctga gggggataca ttcaaagacc 1600  
 cccagcagat gcctgaaacg gtggacagtgc ctgaacctta tatatatttt 1650  
 ttctacaca tacataccta tgataaagtt taatttataa attaggcaca 1700  
 gtaagagatt aacaataata acaacattaa gtaaaatgag ttacttgaac 1750  
 gcaagcactg caataccata acagtcaaac tgattataga gaaggctact 1800  
 aagtgactca tgggcgagga gcatagacag tgtggagaca ttgggcaagg 1850  
 ggagaattca catcctgggt gggacagagc aggacgatgc aagattccat 1900  
 cccactactc agaatggcat gctgcttaag acttttagat tgtttatttc 1950  
 tggaattttt catttaatgt ttttgacca tggttgacca tggttaactg 2000  
 agactgcaga aagcaaaacc atggataagg gaggactact acaaaagcat 2050  
 taaattgata catatttttt aaaaaaaaaa aaaaaaaaaa 2089



His Val Leu Lys	Leu Pro Tyr Gln Gly	Asn Ala Thr Met Leu Val	290	295	300
Val Leu Met Glu Lys	Met Gly Asp His Leu Ala Leu Glu Asp Tyr		305	310	315
Leu Thr Thr Asp	Leu Val Glu Thr Trp	Leu Arg Asn Met Lys Thr	320	325	330
Arg Asn Met Glu Val	Phe Phe Pro Lys Phe Lys Leu Asp Gln Lys		335	340	345
Tyr Glu Met His Glu	Leu Leu Arg Gln Met Gly Ile Arg Arg Ile		350	355	360
Phe Ser Pro Phe Ala	Asp Leu Ser Glu Leu Ser Ala Thr Gly Arg		365	370	375
Asn Leu Gln Val Ser	Arg Val Leu Arg Arg Thr Val Ile Glu Val		380	385	390
Asp Glu Arg Gly Thr	Glu Ala Val Ala Gly Ile Leu Ser Glu Ile		395	400	405
Thr Ala Tyr Ser Met	Pro Pro Val Ile Lys Val Asp Arg Pro Phe		410	415	420
His Phe Met Ile Tyr	Glu Glu Thr Ser Gly Met Leu Leu Phe Leu		425	430	435
Gly Arg Val Val Asn	Pro Thr Leu Leu		440		

<210> 411  
 <211> 636  
 <212> DNA  
 <213> Homo sapiens

<400> 411  
 ctgggatcag ccactgcagc tccctgagca ctctctacag agacgcggac 50  
 cccagacatg aggaggctcc tcctggtcac cagcctggtg gttgtgctgc 100  
 tgtgggagggc aggtgcagtc ccagcaccca aggtccctat caagatgcaa 150  
 gtcaaactact ggccctcaga gcaggaccca gagaaggcct ggggcgcccg 200  
 tgtggtggag cctccggaga aggacgacca gctggtggtg ctgttccctg 250  
 tccagaagcc gaaactcttg accaccgagg agaagccacg aggtcagggc 300  
 aggggcccga tccttcagg caccaaggcc tggatggaga ccgaggacac 350  
 cctgggccgt gtcctgagtc ccgagcccga ccatgacagc ctgtaccacc 400  
 ctccgcctga ggaggaccag ggcgaggaga ggccccggtt gtgggtgatg 450  
 ccaaatacc aggtgctcct gggaccggag gaagaccaag accacatcta 500  
 cccccccag tagggctcca ggggccatca ctgccccgc cctgtcccaa 550  
 ggcccaggct gttgggactg ggaccctccc taccctgccc cagctagaca 600



aataaacccc agcaggcaaa aaaaaaaaaa aaaaaa 636

<210> 412  
<211> 151  
<212> PRT  
<213> Homo sapiens

<400> 412  
Met Arg Arg Leu Leu Leu Val Thr Ser Leu Val Val Val Leu Leu  
1 5 10 15  
Trp Glu Ala Gly Ala Val Pro Ala Pro Lys Val Pro Ile Lys Met  
20 25 30  
Gln Val Lys His Trp Pro Ser Glu Gln Asp Pro Glu Lys Ala Trp  
35 40 45  
Gly Ala Arg Val Val Glu Pro Pro Glu Lys Asp Asp Gln Leu Val  
50 55 60  
Val Leu Phe Pro Val Gln Lys Pro Lys Leu Leu Thr Thr Glu Glu  
65 70 75  
Lys Pro Arg Gly Gln Gly Arg Gly Pro Ile Leu Pro Gly Thr Lys  
80 85 90  
Ala Trp Met Glu Thr Glu Asp Thr Leu Gly Arg Val Leu Ser Pro  
95 100 105  
Glu Pro Asp His Asp Ser Leu Tyr His Pro Pro Pro Glu Glu Asp  
110 115 120  
Gln Gly Glu Glu Arg Pro Arg Leu Trp Val Met Pro Asn His Gln  
125 130 135  
Val Leu Leu Gly Pro Glu Glu Asp Gln Asp His Ile Tyr His Pro  
140 145 150  
Gln

<210> 413  
<211> 1176  
<212> DNA  
<213> Homo sapiens

<400> 413  
agaaagctgc actctgttga gctccagggc gcagtggagg gagggagtga 50  
aggagctctc tgtacccaag gaaagtgcag ctgagactca gacaagatta 100  
caatgaacca actcagcttc ctgctgtttc tcatagcgac caccagagga 150  
tggagtacag atgaggctaa tacttacttc aaggaatgga cctgttcttc 200  
gtctccatct ctgccagaa gctgcaagga aatcaaagac gaatgtccta 250  
gtgcatttga tggcctgtat tttctccgca ctgagaatgg tggtatctac 300  
cagaccttct gtgacatgac ctctgggggt ggcggctgga ccctggtggc 350  
cagcgtgcat gagaatgaca tgcgtgggaa gtgcacggtg ggcatcgct 400



	125		130		135
Asn Pro Gly Tyr	Tyr Asp Ile Gln Ala	Lys Asp Leu Gly Ile	Trp		
	140		145		150
His Val Pro Asn	Lys Ser Pro Met Gln	His Trp Arg Asn Ser	Ser		
	155		160		165
Leu Leu Arg Tyr	Arg Thr Asp Thr Gly	Phe Leu Gln Thr Leu	Gly		
	170		175		180
His Asn Leu Phe	Gly Ile Tyr Gln Lys	Tyr Pro Val Lys Tyr	Gly		
	185		190		195
Glu Gly Lys Cys	Trp Thr Asp Asn Gly	Pro Val Ile Pro Val	Val		
	200		205		210
Tyr Asp Phe Gly	Asp Ala Gln Lys Thr	Ala Ser Tyr Tyr Ser	Pro		
	215		220		225
Tyr Gly Gln Arg	Glu Phe Thr Ala Gly	Phe Val Gln Phe Arg	Val		
	230		235		240
Phe Asn Asn Glu	Arg Ala Ala Asn Ala	Leu Cys Ala Gly Met	Arg		
	245		250		255
Val Thr Gly Cys	Asn Thr Glu His His	Cys Ile Gly Gly Gly	Gly		
	260		265		270
Tyr Phe Pro Glu	Ala Ser Pro Gln Gln	Cys Gly Asp Phe Ser	Gly		
	275		280		285
Phe Asp Trp Ser	Gly Tyr Gly Thr His	Val Gly Tyr Ser Ser	Ser		
	290		295		300
Arg Glu Ile Thr	Glu Ala Ala Val Leu	Leu Phe Tyr Arg			
	305		310		

<210> 415  
 <211> 1281  
 <212> DNA  
 <213> Homo sapiens

<400> 415  
 gcggagccgg cgccggctgc gcagaggagc cgctctcgcc gccgccacct 50  
 cggctgggag ccacagaggc tgccgcatcc tgccctcgga acaatgggac 100  
 tcggcgcgcg aggtgcttgg gccgcgctgc tcctggggac gctgcaggtg 150  
 ctagcgctgc tggggggccgc ccatgaaagc gcagccatgg cgcatctgc 200  
 aaacatagag aattctgggc ttccacacaa ctccagtgt aactcaacag 250  
 agactctcca acatgtgcct tctgaccata caaatgaaac ttccaacagt 300  
 actgtgaaac caccaacttc agttgcctca gactccagta atacaacggt 350  
 caccaccatg aaacctacag cggcatctaa tacaacaaca ccagggatgg 400  
 tctcaacaaa tatgacttct accaccttaa agtctacacc caaaacaaca 450  
 agtgtttcac agaacacatc tcagatatca acatccacaa tgaccgtaac 500

ccacaatagt tcagtgacat ctgctgcttc atcagtaaca atcacaacaa 550  
ctatgcattc tgaagcaaag aaaggatcaa aatttgatac tgggagcttt 600  
gttggttgga ttgtattaac gctgggagtt ttatctattc tttacattgg 650  
atgcaaaatg tattactcaa gaagaggcat tcggtatoga accatagatg 700  
aacatgatgc catcatttaa ggaaatccat ggaccaagga tggaatacag 750  
attgatgctg ccctatcaat taatttttgt ttattaatag tttaaaacaa 800  
tattctcttt ttgaaaatag tataaacagg ccatgcatat aatgtacagt 850  
gtattacgta aatatgtaaa gattcttcaa ggtaacaagg gtttggggtt 900  
tgaaataaac atctggatct tatagaccgt tcatacaatg gttttagcaa 950  
gttcatagta agacaaacaa gtcctatctt ttttttttgg ctgggggtggg 1000  
ggcattggtc acatatgacc agtaattgaa agacgtcatc actgaaagac 1050  
agaatgccat ctgggcatac aaataagaag tttgtcacag cactcaggat 1100  
tttgggtatc ttttgtagct cacataaaga acttcagtgc ttttcagagc 1150  
tg gatataatc ttaattacta atgccacaca gaaattatac aatcaaacta 1200  
gatctgaagc ataatttaag aaaaacatca acattttttg tgcttttaaac 1250  
tgtagtagtt ggtctagaaa caaaatactc c 1281

<210> 416  
<211> 208  
<212> PRT  
<213> Homo sapiens

<400> 416  
Met Gly Leu Gly Ala Arg Gly Ala Trp Ala Ala Leu Leu Leu Gly  
1 5 10 15  
Thr Leu Gln Val Leu Ala Leu Leu Gly Ala Ala His Glu Ser Ala  
20 25 30  
Ala Met Ala Ala Ser Ala Asn Ile Glu Asn Ser Gly Leu Pro His  
35 40 45  
Asn Ser Ser Ala Asn Ser Thr Glu Thr Leu Gln His Val Pro Ser  
50 55 60  
Asp His Thr Asn Glu Thr Ser Asn Ser Thr Val Lys Pro Pro Thr  
65 70 75  
Ser Val Ala Ser Asp Ser Ser Asn Thr Thr Val Thr Thr Met Lys  
80 85 90  
Pro Thr Ala Ala Ser Asn Thr Thr Thr Pro Gly Met Val Ser Thr  
95 100 105  
Asn Met Thr Ser Thr Thr Leu Lys Ser Thr Pro Lys Thr Thr Ser  
110 115 120  
Val Ser Gln Asn Thr Ser Gln Ile Ser Thr Ser Thr Met Thr Val



ctttttcacc acatagtttt aacttgactt tcaagataat tttcagggtt 1050  
 tttgttggtg ttgttttttg tttgtttggt ttggtgggag aggggagggg 1100  
 tgcctgggaa gtggttaaca acttttttca agtcacttta ctaaacaac 1150  
 ttttgtaaat agacottacc ttctattttc gagtttcatt tatattttgc 1200  
 agtgtagcca gcctcatcaa agagctgact tactcatttg acttttgcac 1250  
 tgactgtatt atctgggtat ctgctgtgtc tgcacttcat ggtaaacggg 1300  
 atctaaaatg cctgggtggct tttcacaaaa agcagatttt cttcatgtac 1350  
 tgtgatgtct gatgcaatgc atcctagaac aaactggcca tttgctagtt 1400  
 tactctaaag actaaacata gtcttggtgt gtgtggtctt actcatcttc 1450  
 tagtaccttt aaggacaaat cctaaggact tggacacttg caataaagaa 1500  
 attttatttt aaaccaagc ctccctggat tgataatata tacacatttg 1550  
 tcagcatttc cggtcgtggt gagaggcagc tgtttgagct ccaatatgtg 1600  
 cagctttgaa ctagggctgg ggttggtggg gcctcttctg aaaggtctaa 1650  
 ccattattgg ataactggct tttttcttcc tatgtcctct ttggaatgta 1700  
 acaataaaaa taatttttga aacatcaa 1728

<210> 418  
 <211> 198  
 <212> PRT  
 <213> Homo sapiens

<400> 418  
 Met Ala Thr Leu Trp Gly Gly Leu Leu Arg Leu Gly Ser Leu Leu  
 1 5 10 15  
 Ser Leu Ser Cys Leu Ala Leu Ser Val Leu Leu Leu Ala Gln Leu  
 20 25 30  
 Ser Asp Ala Ala Lys Asn Phe Glu Asp Val Arg Cys Lys Cys Ile  
 35 40 45  
 Cys Pro Pro Tyr Lys Glu Asn Ser Gly His Ile Tyr Asn Lys Asn  
 50 55 60  
 Ile Ser Gln Lys Asp Cys Asp Cys Leu His Val Val Glu Pro Met  
 65 70 75  
 Pro Val Arg Gly Pro Asp Val Glu Ala Tyr Cys Leu Arg Cys Glu  
 80 85 90  
 Cys Lys Tyr Glu Glu Arg Ser Ser Val Thr Ile Lys Val Thr Ile  
 95 100 105  
 Ile Ile Tyr Leu Ser Ile Leu Gly Leu Leu Leu Leu Tyr Met Val  
 110 115 120  
 Tyr Leu Thr Leu Val Glu Pro Ile Leu Lys Arg Arg Leu Phe Gly  
 125 130 135

His	Ala	Gln	Leu	Ile	Gln	Ser	Asp	Asp	Asp	Ile	Gly	Asp	His	Gln
				140					145					150
Pro	Phe	Ala	Asn	Ala	His	Asp	Val	Leu	Ala	Arg	Ser	Arg	Ser	Arg
				155					160					165
Ala	Asn	Val	Leu	Asn	Lys	Val	Glu	Tyr	Ala	Gln	Gln	Arg	Trp	Lys
				170					175					180
Leu	Gln	Val	Gln	Glu	Gln	Arg	Lys	Ser	Val	Phe	Asp	Arg	His	Val
				185					190					195
Val	Leu	Ser												

<210> 419  
 <211> 681  
 <212> DNA  
 <213> Homo sapiens

<400> 419  
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 tcgctctggc ttctgggctt gtcttggtc tgctgctgct gctgcccaag 100  
 gccttctgt cccgcgggaa gcggcaggag ccgccgccga cacctgaagg 150  
 aaaattgggc cgatttccac ctatgatgca tcatcaccag gcacctcag 200  
 atggccagac tcctggggct cgtttccaga ggtctcacct tgccgaggca 250  
 tttgcaaagg ccaaaggatc aggtggaggt gctggaggag gaggtagtgg 300  
 aagaggtctg atggggcaga ttattccaat ctacggtttt gggatttttt 350  
 tatatatact gtacattcta tttaaggtaa gtagaatcat octaatcata 400  
 ttacatcaat gaaaatctaa tatggcgata aaaatcattg tctacattaa 450  
 aacttcttat agttcataaa attatttcaa atccatcatc tctttaaatc 500  
 ctgcctcctc ttcattgaggt acttaggata gccattatct cagtttcaca 550  
 taagaatgtt tactcaatgt ttaagtgtt tgccccaaaa ttcacaacta 600  
 acaaggcaga actaggactt gaacatggat cttttggttc ttaatccagt 650  
 gagtgataca attcaatgca ctcccctgcc a 681

<210> 420  
 <211> 128  
 <212> PRT  
 <213> Homo sapiens

<400> 420  
 Met Ala Tyr Ser Thr Val Gln Arg Val Ala Leu Ala Ser Gly Leu  
 1 5 10 15  
 Val Leu Ala Leu Ser Leu Leu Leu Pro Lys Ala Phe Leu Ser Arg  
 20 25 30  
 Gly Lys Arg Gln Glu Pro Pro Pro Thr Pro Glu Gly Lys Leu Gly  
 35 40 45

Arg	Phe	Pro	Pro	Met	Met	His	His	His	Gln	Ala	Pro	Ser	Asp	Gly
				50					55					60
Gln	Thr	Pro	Gly	Ala	Arg	Phe	Gln	Arg	Ser	His	Leu	Ala	Glu	Ala
			65						70					75
Phe	Ala	Lys	Ala	Lys	Gly	Ser	Gly	Gly	Gly	Ala	Gly	Gly	Gly	Gly
			80						85					90
Ser	Gly	Arg	Gly	Leu	Met	Gly	Gln	Ile	Ile	Pro	Ile	Tyr	Gly	Phe
			95						100					105
Gly	Ile	Phe	Leu	Tyr	Ile	Leu	Tyr	Ile	Leu	Phe	Lys	Val	Ser	Arg
			110						115					120
Ile	Ile	Leu	Ile	Ile	Leu	His	Gln							
			125											

<210> 421  
 <211> 1630  
 <212> DNA  
 <213> Homo sapiens

<400> 421  
 cggctcagtg gcagctgtgg ggagatttca gtgcattgcc tcccctgggt 50  
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 aactcatcct gctgccagtg ttactggatt attccttggg cctgaatgac 150  
 ttgaatgttt ccccgctga gctaacagtc catgtgggtg attcagctct 200  
 gatgggatgt gttttccaga gcacagaaga caaatgtata ttcaagatag 250  
 actggactct gtcaccagga gagcacgcca aggacgaata tgtgctatac 300  
 tattactcca atctcagtg gcctattggg cgcttcacaga accgcgtaca 350  
 cttgatgggg gacatcttat gcaatgatgg ctctctcctg ctccaagatg 400  
 tgcaagaggc tgaccaggga acctatatct gtgaaatccg cctcaaaggg 450  
 gagagccagg tgttcaagaa ggcggtggta ctgcatgtgc ttccagagga 500  
 gcccaaagag ctcatggtcc atgtgggtgg attgattcag atgggatgtg 550  
 ttttccagag cacagaagtg aaacacgtga ccaaggtaga atggatattt 600  
 tcaggacggc gcgcaaagga ggagattgta tttcgttact accacaaact 650  
 caggatgtct gtggagtact ccagagctg gggccacttc cagaatcgtg 700  
 tgaacctggt gggggacatt ttccgcaatg acggttccat catgcttcaa 750  
 ggagtgaggg agtcagatgg aggaaactac acctgcagta tccacctagg 800  
 gaacctggtg ttcaagaaaa ccattgtgct gcatgtcagc ccggaagagc 850  
 ctcgaacact ggtgaccccg gcagccctga ggccctctggt cttgggtggt 900  
 aatcagttgg tgatcattgt gggaattgtc tgtgccacaa tcctgctgct 950  
 ccctgttctg atattgatcg tgaagaagac ctgtggaaat aagagttcag 1000



tgaattctac agtcttggtg aagaacacga agaagactaa tccagagata 1050  
aaagaaaaac cctgccattt tgaaagatgt gaaggggaga aacacattta 1100  
ctccccaata attgtacggg aggtgatcga ggaagaagaa ccaagtgaaa 1150  
aatcagaggc cacctacatg accatgcacc cagtttggcc ttctctgagg 1200  
tcagatcgga acaactcact tgaaaaaaag tcaggtgggg gaatgccaaa 1250  
aacacagcaa gccttttgag aagaatggag agtcccttca tctcagcagc 1300  
ggtggagact ctctcctgtg tgtgtcctgg gccactctac cagtgatttc 1350  
agactcccg c tctccagct gtctcctgt ctctattgtt ggtaataca 1400  
ctgaagatgg agaatttgga gcctggcaga gagactggac agctctggag 1450  
gaacaggcct gctgagggga ggggagcatg gacttggcct ctggagtggg 1500  
aactggccc tggaaccag gctgagctga gtggcctcaa accccccgtt 1550  
ggatcagacc ctctgtggg cagggttctt agtggatgag ttactgggaa 1600  
gaatcagaga taaaaaccaa cccaaatcaa 1630

<210> 422  
<211> 394  
<212> PRT  
<213> Homo sapiens

<400> 422  
Met Phe Cys Pro Leu Lys Leu Ile Leu Leu Pro Val Leu Leu Asp  
1 5 10 15  
Tyr Ser Leu Gly Leu Asn Asp Leu Asn Val Ser Pro Pro Glu Leu  
20 25 30  
Thr Val His Val Gly Asp Ser Ala Leu Met Gly Cys Val Phe Gln  
35 40 45  
Ser Thr Glu Asp Lys Cys Ile Phe Lys Ile Asp Trp Thr Leu Ser  
50 55 60  
Pro Gly Glu His Ala Lys Asp Glu Tyr Val Leu Tyr Tyr Tyr Ser  
65 70 75  
Asn Leu Ser Val Pro Ile Gly Arg Phe Gln Asn Arg Val His Leu  
80 85 90  
Met Gly Asp Ile Leu Cys Asn Asp Gly Ser Leu Leu Leu Gln Asp  
95 100 105  
Val Gln Glu Ala Asp Gln Gly Thr Tyr Ile Cys Glu Ile Arg Leu  
110 115 120  
Lys Gly Glu Ser Gln Val Phe Lys Lys Ala Val Val Leu His Val  
125 130 135  
Leu Pro Glu Glu Pro Lys Glu Leu Met Val His Val Gly Gly Leu  
140 145 150  
Ile Gln Met Gly Cys Val Phe Gln Ser Thr Glu Val Lys His Val

155										160					165				
Thr	Lys	Val	Glu	Trp	Ile	Phe	Ser	Gly	Arg	Arg	Ala	Lys	Glu	Glu					
				170					175					180					
Ile	Val	Phe	Arg	Tyr	Tyr	His	Lys	Leu	Arg	Met	Ser	Val	Glu	Tyr					
				185					190					195					
Ser	Gln	Ser	Trp	Gly	His	Phe	Gln	Asn	Arg	Val	Asn	Leu	Val	Gly					
				200					205					210					
Asp	Ile	Phe	Arg	Asn	Asp	Gly	Ser	Ile	Met	Leu	Gln	Gly	Val	Arg					
				215					220					225					
Glu	Ser	Asp	Gly	Gly	Asn	Tyr	Thr	Cys	Ser	Ile	His	Leu	Gly	Asn					
				230					235					240					
Leu	Val	Phe	Lys	Lys	Thr	Ile	Val	Leu	His	Val	Ser	Pro	Glu	Glu					
				245					250					255					
Pro	Arg	Thr	Leu	Val	Thr	Pro	Ala	Ala	Leu	Arg	Pro	Leu	Val	Leu					
				260					265					270					
Gly	Gly	Asn	Gln	Leu	Val	Ile	Ile	Val	Gly	Ile	Val	Cys	Ala	Thr					
				275					280					285					
Ile	Leu	Leu	Leu	Pro	Val	Leu	Ile	Leu	Ile	Val	Lys	Lys	Thr	Cys					
				290					295					300					
Gly	Asn	Lys	Ser	Ser	Val	Asn	Ser	Thr	Val	Leu	Val	Lys	Asn	Thr					
				305					310					315					
Lys	Lys	Thr	Asn	Pro	Glu	Ile	Lys	Glu	Lys	Pro	Cys	His	Phe	Glu					
				320					325					330					
Arg	Cys	Glu	Gly	Glu	Lys	His	Ile	Tyr	Ser	Pro	Ile	Ile	Val	Arg					
				335					340					345					
Glu	Val	Ile	Glu	Glu	Glu	Glu	Pro	Ser	Glu	Lys	Ser	Glu	Ala	Thr					
				350					355					360					
Tyr	Met	Thr	Met	His	Pro	Val	Trp	Pro	Ser	Leu	Arg	Ser	Asp	Arg					
				365					370					375					
Asn	Asn	Ser	Leu	Glu	Lys	Lys	Ser	Gly	Gly	Gly	Met	Pro	Lys	Thr					
				380					385					390					

Gln Gln Ala Phe

<210> 423  
 <211> 963  
 <212> DNA  
 <213> Homo sapiens

<400> 423  
 ctatgaagaa gcttcctgga aaacaataag caaaggaaaa caaatgtgtc 50  
 ccatctcaca tggttctacc ctactaaaga caggaagatc ataaactgac 100  
 agatactgaa attgtaagag ttggaaacta cattttgcaa agtcattgaa 150  
 ctctgagctc agttgcagta ctcggaagc catgcaggat gaagatggat 200



	125		130		135
Thr Leu Leu Lys	Ile Asp Asn Arg Asn	Ile Val Glu Tyr Ile	Lys		
	140	145	150		
Ala Arg Thr His	Leu Ile Arg Trp Val	Gly Leu Ser Arg Gln	Lys		
	155	160	165		
Ser Asn Glu Val	Trp Lys Trp Glu Asp	Gly Ser Val Ile Ser	Glu		
	170	175	180		
Asn Met Phe Glu	Phe Leu Glu Asp Gly	Lys Gly Asn Met Asn	Cys		
	185	190	195		
Ala Tyr Phe His	Asn Gly Lys Met His	Pro Thr Phe Cys Glu	Asn		
	200	205	210		
Lys His Tyr Leu	Met Cys Glu Arg Lys	Ala Gly Met Thr Lys	Val		
	215	220	225		

Asp Gln Leu Pro

<210> 425  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 425  
 tgcagcccct gtgacacaaa ctgg 24

<210> 426  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 426  
 ctgagataac cgagccatcc tcccac 26

<210> 427  
 <211> 49  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 427  
 gcttcctgac actaaggctg tctgctagtc agaattgcct caaaaagag 49

<210> 428  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 428  
 ccaccaatgg cagccccacc t 21  
  
 <210> 429  
 <211> 17  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 429  
 gactgccctc cctgcca 17  
  
 <210> 430  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 430  
 caaaaagcct ggaagtcttc aaag 24  
  
 <210> 431  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 431  
 cagctggact gcaggtgcta 20  
  
 <210> 432  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 432  
 cagtggacac agcaagtgtc ct 22  
  
 <210> 433  
 <211> 28  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 433  
 ggccacctcc ttgagtcttc agttccct 28  
  
 <210> 434  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 434  
caactactgg ctaaagctgg tgaa 24

<210> 435  
<211> 27  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 435  
cctttctgta taggtgatac ccaatga 27

<210> 436  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 436  
tggccatccc taccagaggc aaaa 24

<210> 437  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 437  
ctgaagacga cgcggattac ta 22

<210> 438  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 438  
ggcagaaatg ggaggcaga 19

<210> 439  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 439  
tgctctgttg gctacggctt tagtccctag 30

<210> 440  
<211> 22

<212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 440  
 agcagcagcc atgtagaatg aa 22  
  
 <210> 441  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 441  
 aatacgaaca gtgcacgctg at 22  
  
 <210> 442  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 442  
 tccagagagc caagcacggc aga 23  
  
 <210> 443  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 443  
 tctagccagc ttggctccaa ta 22  
  
 <210> 444  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 444  
 cctggctcta gcaccaactc ata 23  
  
 <210> 445  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 445  
 tcagtggccc taaggagatg ggcct 25

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<210> 446
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 446
caggatacag tgggaatctt gaga 24

<210> 447
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 447
cctgaagggc ttggagctta gt 22

<210> 448
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 448
tctttggcca tttcccatgg ctca 24

<210> 449
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 449
cccatggcga ggaggaat 18

<210> 450
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 450
tgcgtacgtg tgccttcag 19

<210> 451
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

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<400> 451  
cagcacccca ggcagtctgt gtgt 24

<210> 452  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 452  
aacgtgctac acgaccagtg tact 24

<210> 453  
<211> 27  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 453  
cacagcatat tcagatgact aaatcca 27

<210> 454  
<211> 31  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 454  
ttgttttagtt ctccaccgtg tctccacaga a 31

<210> 455  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 455  
tgtcagaatg caacctggct t 21

<210> 456  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 456  
tgatgtgcct ggctcagaac 20

<210> 457  
<211> 24  
<212> DNA  
<213> Artificial Sequence

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<220>
<223> Synthetic oligonucleotide probe

<400> 457
    tgcacctaga tgtccccagc accc 24

<210> 458
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 458
    aagatgcgcc aggcttctta 20

<210> 459
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 459
    ctcctgtacg gtctgctcac ttat 24

<210> 460
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 460
    tggctgtcag tccagtgtgc atgg 24

<210> 461
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 461
    gcatagggat agataagatc ctgctttat 29

<210> 462
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 462
    caaattaaag tacccatcag gagagaa 27

<210> 463
<211> 37

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<212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 463  
 aagttgctaa atatatacat tatctgcgcc aagtcca 37  
  
 <210> 464  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 464  
 gtgctgcca caattcatga 20  
  
 <210> 465  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 465  
 gtccttgga tgggtctgaa ttatat 26  
  
 <210> 466  
 <211> 31  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 466  
 actctctgca cccacagtc accactatct c 31  
  
 <210> 467  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 467  
 ctgaggaacc agccatgtct ct 22  
  
 <210> 468  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 468  
 gaccagatgc aggtacagga tga 23

<210> 469  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 469  
 ctgccccttc agtgatgcca acctt 25  
  
 <210> 470  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 470  
 ggggtggaggc tcactgagta ga 22  
  
 <210> 471  
 <211> 28  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 471  
 caatacaggt aatgaaactc tgcttctt 28  
  
 <210> 472  
 <211> 36  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 472  
 tcctcttaag cataggccat tttctcagtt tagaca 36  
  
 <210> 473  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence  
  
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 <400> 475  
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 <223> Synthetic oligonucleotide probe  
  
 <400> 477  
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 <400> 478  
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<400> 484  
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<400> 485  
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<210> 486  
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 <400> 490  
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<210> 492  
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<212> DNA  
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<400> 493  
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<210> 494  
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<212> DNA  
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<400> 494  
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cagcccgcgc gggagccgga ccgccgccg aggagctcgg acggcatgct 150  
gagccccctc ctttgctgaa gcccgagtgc ggagaagccc gggcaaacgc 200  
aggctaagga gaccaaagcg gcgaagtcgc gagacagcgg acaagcagcg 250  
gaggagaagg aggaggaggc gaaccagag aggggcagca aaagaagcgg 300  
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cgtcagaaga ggcaagcccc cgagcgcgag aaatccaacg cctgcaagtg 400  
tgtcagcagc ccagcaaag gcaagaccag ctgcgacaaa aacaagttaa 450  
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tgagggatac ttgtacacct cggaactttt cacacctgag tgcaaattca 750  
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cgtcagcagc agtcaggccg aggggtggtat ctgggtctga acaaagaagg 850  
agagatcatg aaaggcaacc atgtgaagaa gaacaagcct gcagctcatt 900



ttctgcctaa accactgaaa gtggccatgt acaaggagcc atcactgcac 950  
gatctcacgg agttctcccg atctggaagc gggaccccaa ccaagagcag 1000  
aagtgtctct ggcgtgctga acggaggcaa atccatgagc cacaatgaat 1050  
caacgtagcc agtgagggca aaagaagggc tctgtaacag aaccttacct 1100  
ccaggtgctg ttgaattctt ctagcagtcc ttcacccaaa agttcaaatt 1150  
tgtcagtgc atttacaaa caaacaggca gagttcacta ttctatctgc 1200  
cattagacct tcttatcatc cataactaaag c 1231

<210> 495  
<211> 245  
<212> PRT  
<213> Homo Sapien

<400> 495  
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Ala Arg Glu Arg Glu Lys Ser Asn Ala Cys Lys Cys Val Ser Ser  
20 25 30  
Pro Ser Lys Gly Lys Thr Ser Cys Asp Lys Asn Lys Leu Asn Val  
35 40 45  
Phe Ser Arg Val Lys Leu Phe Gly Ser Lys Lys Arg Arg Arg Arg  
50 55 60  
Arg Pro Glu Pro Gln Leu Lys Gly Ile Val Thr Lys Leu Tyr Ser  
65 70 75  
Arg Gln Gly Tyr His Leu Gln Leu Gln Ala Asp Gly Thr Ile Asp  
80 85 90  
Gly Thr Lys Asp Glu Asp Ser Thr Tyr Thr Leu Phe Asn Leu Ile  
95 100 105  
Pro Val Gly Leu Arg Val Val Ala Ile Gln Gly Val Gln Thr Lys  
110 115 120  
Leu Tyr Leu Ala Met Asn Ser Glu Gly Tyr Leu Tyr Thr Ser Glu  
125 130 135  
Leu Phe Thr Pro Glu Cys Lys Phe Lys Glu Ser Val Phe Glu Asn  
140 145 150  
Tyr Tyr Val Thr Tyr Ser Ser Met Ile Tyr Arg Gln Gln Gln Ser  
155 160 165  
Gly Arg Gly Trp Tyr Leu Gly Leu Asn Lys Glu Gly Glu Ile Met  
170 175 180  
Lys Gly Asn His Val Lys Lys Asn Lys Pro Ala Ala His Phe Leu  
185 190 195  
Pro Lys Pro Leu Lys Val Ala Met Tyr Lys Glu Pro Ser Leu His  
200 205 210  
Asp Leu Thr Glu Phe Ser Arg Ser Gly Ser Gly Thr Pro Thr Lys

CCDS: T44066.0



gcctggacaa ggagggccag gtcattgaagg gaaaccgagt taagaagacc 1300  
aaggcagctg cccactttct gcccaagctc ctggaggtgg ccatgtacca 1350  
ggagccttct ctccacagtg tccccgaggc ctccccttcc agtccccctg 1400  
ccccctgaaa tgtagtccct ggactggagg ttccctgcac tcccagtgag 1450  
ccagccacca ccacaacctg t 1471

<210> 497  
<211> 225  
<212> PRT  
<213> Homo Sapien

<400> 497  
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20 25 30  
Cys Pro Arg Gly Thr Lys Ser Leu Cys Gln Lys Gln Leu Leu Ile  
35 40 45  
Leu Leu Ser Lys Val Arg Leu Cys Gly Gly Arg Pro Ala Arg Pro  
50 55 60  
Asp Arg Gly Pro Glu Pro Gln Leu Lys Gly Ile Val Thr Lys Leu  
65 70 75  
Phe Cys Arg Gln Gly Phe Tyr Leu Gln Ala Asn Pro Asp Gly Ser  
80 85 90  
Ile Gln Gly Thr Pro Glu Asp Thr Ser Ser Phe Thr His Phe Asn  
95 100 105  
Leu Ile Pro Val Gly Leu Arg Val Val Thr Ile Gln Ser Ala Lys  
110 115 120  
Leu Gly His Tyr Met Ala Met Asn Ala Glu Gly Leu Leu Tyr Ser  
125 130 135  
Ser Pro His Phe Thr Ala Glu Cys Arg Phe Lys Glu Cys Val Phe  
140 145 150  
Glu Asn Tyr Tyr Val Leu Tyr Ala Ser Ala Leu Tyr Arg Gln Arg  
155 160 165  
Arg Ser Gly Arg Ala Trp Tyr Leu Gly Leu Asp Lys Glu Gly Gln  
170 175 180  
Val Met Lys Gly Asn Arg Val Lys Lys Thr Lys Ala Ala Ala His  
185 190 195  
Phe Leu Pro Lys Leu Leu Glu Val Ala Met Tyr Gln Glu Pro Ser  
200 205 210  
Leu His Ser Val Pro Glu Ala Ser Pro Ser Ser Pro Pro Ala Pro  
215 220 225

<210> 498  
<211> 744

<212> DNA  
 <213> Homo Sapien

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 gcaagaaccg cgggctctgc aacggcaacc tgggtggatat cttctccaaa 150  
 gtgcgcatct tcggcctcaa gaagcgcagg ttgcggcgcc aagatcccca 200  
 gctcaaggtt atagtgacca gggttatattg caggcaaggc tactacttgc 250  
 aaatgcaccc cgatggagct ctgatggaa ccaaggatga cagcactaat 300  
 tctacactct tcaacctcat accagtggga ctacgtgttg ttgccatcca 350  
 gggagtgaaa acagggttgt atatatccat gaatggagaa ggttacctct 400  
 acccatcaga actttttacc cctgaatgca agtttaaaga atctgttttt 450  
 gaaaattatt atgtaatcta ctcatccatg ttgtacagac aacaggaatc 500  
 tggtagagcc tgggttttgg gattaaataa ggaagggcaa gctatgaaag 550  
 ggaacagagt aaagaaaacc aaaccagcag ctcatcttct acccaagcca 600  
 ttggaagtgt ccatgtaccg agaaccatct ttgcatgatg ttggggaaac 650  
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<210> 499  
 <211> 247  
 <212> PRT  
 <213> Homo Sapien

<400> 499  
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                   20                  25                  30  
 Ser Ser Pro Ser Lys Asn Arg Gly Leu Cys Asn Gly Asn Leu Val  
                   35                  40                  45  
 Asp Ile Phe Ser Lys Val Arg Ile Phe Gly Leu Lys Lys Arg Arg  
                   50                  55                  60  
 Leu Arg Arg Gln Asp Pro Gln Leu Lys Gly Ile Val Thr Arg Leu  
                   65                  70                  75  
 Tyr Cys Arg Gln Gly Tyr Tyr Leu Gln Met His Pro Asp Gly Ala  
                   80                  85                  90  
 Leu Asp Gly Thr Lys Asp Asp Ser Thr Asn Ser Thr Leu Phe Asn  
                   95                  100                  105  
 Leu Ile Pro Val Gly Leu Arg Val Val Ala Ile Gln Gly Val Lys  
                   110                  115                  120

Thr	Gly	Leu	Tyr	Ile	Ala	Met	Asn	Gly	Glu	Gly	Tyr	Leu	Tyr	Pro
				125					130					135
Ser	Glu	Leu	Phe	Thr	Pro	Glu	Cys	Lys	Phe	Lys	Glu	Ser	Val	Phe
				140					145					150
Glu	Asn	Tyr	Tyr	Val	Ile	Tyr	Ser	Ser	Met	Leu	Tyr	Arg	Gln	Gln
				155					160					165
Glu	Ser	Gly	Arg	Ala	Trp	Phe	Leu	Gly	Leu	Asn	Lys	Glu	Gly	Gln
				170					175					180
Ala	Met	Lys	Gly	Asn	Arg	Val	Lys	Lys	Thr	Lys	Pro	Ala	Ala	His
				185					190					195
Phe	Leu	Pro	Lys	Pro	Leu	Glu	Val	Ala	Met	Tyr	Arg	Glu	Pro	Ser
				200					205					210
Leu	His	Asp	Val	Gly	Glu	Thr	Val	Pro	Lys	Pro	Gly	Val	Thr	Pro
				215					220					225
Ser	Lys	Ser	Thr	Ser	Ala	Ser	Ala	Ile	Met	Asn	Gly	Gly	Lys	Pro
				230					235					240
Val	Asn	Lys	Ser	Lys	Thr	Thr								
				245										

<210> 500  
 <211> 2906  
 <212> DNA  
 <213> Homo Sapien

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 tggaaccgaa cgcaatggat aaactgattg tgcaagagag aaggaagaac 150  
 gaagcttttt cttgtgagcc ctggatctta acacaaatgt gtatatgtgc 200  
 acacagggag cattcaagaa tgaaataaac cagagttaga cccgcggggg 250  
 ttggtgtggt ctgacataaa taaataatct taaagcagct gttcccctcc 300  
 ccacccccaa aaaaaaggat gattggaaat gaagaaccga ggattcacia 350  
 agaaaaaagt atgttcattt ttctctataa aggagaaagt gagccaagga 400  
 gatatttttg gaatgaaaag tttggggctt ttttagtaaa gtaaagaact 450  
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 aattaataat acatctgcaa agaaatttca gagaagaaaa gttgaccgcg 550  
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tgtctaaact gaaggagctc tgggtgcgaa acaaccccat tgaaagcatc 1300  
ccttcttatg cttttaacag aattccttct ttgcgccgac tagacttagg 1350  
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 aggactgttg aaattattaa tgtggatgat gagattacgg gagacacacc 2550  
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 caaaaa 2906

<210> 501  
 <211> 640  
 <212> PRT  
 <213> Homo Sapien

<400> 501

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Pro	Arg	Phe	Asn	Arg	Ala	Leu	Phe	Asp	Pro	Leu	Leu	Val	Val	Leu
			20						25					30
Leu	Ala	Leu	Gln	Leu	Leu	Val	Val	Ala	Gly	Leu	Val	Arg	Ala	Gln
			35						40					45
Thr	Cys	Pro	Ser	Val	Cys	Ser	Cys	Ser	Asn	Gln	Phe	Ser	Lys	Val
			50						55					60
Ile	Cys	Val	Arg	Lys	Asn	Leu	Arg	Glu	Val	Pro	Asp	Gly	Ile	Ser
			65						70					75
Thr	Asn	Thr	Arg	Leu	Leu	Asn	Leu	His	Glu	Asn	Gln	Ile	Gln	Ile
			80						85					90
Ile	Lys	Val	Asn	Ser	Phe	Lys	His	Leu	Arg	His	Leu	Glu	Ile	Leu
			95						100					105
Gln	Leu	Ser	Arg	Asn	His	Ile	Arg	Thr	Ile	Glu	Ile	Gly	Ala	Phe
			110						115					120
Asn	Gly	Leu	Ala	Asn	Leu	Asn	Thr	Leu	Glu	Leu	Phe	Asp	Asn	Arg
			125						130					135
Leu	Thr	Thr	Ile	Pro	Asn	Gly	Ala	Phe	Val	Tyr	Leu	Ser	Lys	Leu
			140						145					150
Lys	Glu	Leu	Trp	Leu	Arg	Asn	Asn	Pro	Ile	Glu	Ser	Ile	Pro	Ser
			155						160					165

Tyr	Ala	Phe	Asn	Arg	Ile	Pro	Ser	Leu	Arg	Arg	Leu	Asp	Leu	Gly	170	175	180
Glu	Leu	Lys	Arg	Leu	Ser	Tyr	Ile	Ser	Glu	Gly	Ala	Phe	Glu	Gly	185	190	195
Leu	Ser	Asn	Leu	Arg	Tyr	Leu	Asn	Leu	Ala	Met	Cys	Asn	Leu	Arg	200	205	210
Glu	Ile	Pro	Asn	Leu	Thr	Pro	Leu	Ile	Lys	Leu	Asp	Glu	Leu	Asp	215	220	225
Leu	Ser	Gly	Asn	His	Leu	Ser	Ala	Ile	Arg	Pro	Gly	Ser	Phe	Gln	230	235	240
Gly	Leu	Met	His	Leu	Gln	Lys	Leu	Trp	Met	Ile	Gln	Ser	Gln	Ile	245	250	255
Gln	Val	Ile	Glu	Arg	Asn	Ala	Phe	Asp	Asn	Leu	Gln	Ser	Leu	Val	260	265	270
Glu	Ile	Asn	Leu	Ala	His	Asn	Asn	Leu	Thr	Leu	Leu	Pro	His	Asp	275	280	285
Leu	Phe	Thr	Pro	Leu	His	His	Leu	Glu	Arg	Ile	His	Leu	His	His	290	295	300
Asn	Pro	Trp	Asn	Cys	Asn	Cys	Asp	Ile	Leu	Trp	Leu	Ser	Trp	Trp	305	310	315
Ile	Lys	Asp	Met	Ala	Pro	Ser	Asn	Thr	Ala	Cys	Cys	Ala	Arg	Cys	320	325	330
Asn	Thr	Pro	Pro	Asn	Leu	Lys	Gly	Arg	Tyr	Ile	Gly	Glu	Leu	Asp	335	340	345
Gln	Asn	Tyr	Phe	Thr	Cys	Tyr	Ala	Pro	Val	Ile	Val	Glu	Pro	Pro	350	355	360
Ala	Asp	Leu	Asn	Val	Thr	Glu	Gly	Met	Ala	Ala	Glu	Leu	Lys	Cys	365	370	375
Arg	Ala	Ser	Thr	Ser	Leu	Thr	Ser	Val	Ser	Trp	Ile	Thr	Pro	Asn	380	385	390
Gly	Thr	Val	Met	Thr	His	Gly	Ala	Tyr	Lys	Val	Arg	Ile	Ala	Val	395	400	405
Leu	Ser	Asp	Gly	Thr	Leu	Asn	Phe	Thr	Asn	Val	Thr	Val	Gln	Asp	410	415	420
Thr	Gly	Met	Tyr	Thr	Cys	Met	Val	Ser	Asn	Ser	Val	Gly	Asn	Thr	425	430	435
Thr	Ala	Ser	Ala	Thr	Leu	Asn	Val	Thr	Ala	Ala	Thr	Thr	Thr	Pro	440	445	450
Phe	Ser	Tyr	Phe	Ser	Thr	Val	Thr	Val	Glu	Thr	Met	Glu	Pro	Ser	455	460	465
Gln	Asp	Glu	Ala	Arg	Thr	Thr	Asp	Asn	Asn	Val	Gly	Pro	Thr	Pro	470	475	480



Val	Val	Asp	Trp	Glu	Thr	Thr	Asn	Val	Thr	Thr	Ser	Leu	Thr	Pro	485	490	495
Gln	Ser	Thr	Arg	Ser	Thr	Glu	Lys	Thr	Phe	Thr	Ile	Pro	Val	Thr	500	505	510
Asp	Ile	Asn	Ser	Gly	Ile	Pro	Gly	Ile	Asp	Glu	Val	Met	Lys	Thr	515	520	525
Thr	Lys	Ile	Ile	Ile	Gly	Cys	Phe	Val	Ala	Ile	Thr	Leu	Met	Ala	530	535	540
Ala	Val	Met	Leu	Val	Ile	Phe	Tyr	Lys	Met	Arg	Lys	Gln	His	His	545	550	555
Arg	Gln	Asn	His	His	Ala	Pro	Thr	Arg	Thr	Val	Glu	Ile	Ile	Asn	560	565	570
Val	Asp	Asp	Glu	Ile	Thr	Gly	Asp	Thr	Pro	Met	Glu	Ser	His	Leu	575	580	585
Pro	Met	Pro	Ala	Ile	Glu	His	Glu	His	Leu	Asn	His	Tyr	Asn	Ser	590	595	600
Tyr	Lys	Ser	Pro	Phe	Asn	His	Thr	Thr	Thr	Val	Asn	Thr	Ile	Asn	605	610	615
Ser	Ile	His	Ser	Ser	Val	His	Glu	Pro	Leu	Leu	Ile	Arg	Met	Asn	620	625	630
Ser	Lys	Asp	Asn	Val	Gln	Glu	Thr	Gln	Ile						635	640	

<210> 502  
 <211> 2458  
 <212> DNA  
 <213> Homo Sapien

<400> 502  
 gcgccgggag cccatctgcc ccaggggca cggggcgcg ggccggctcc 50  
 cgccccgcac atggctgcag ccacctcgcg cgcacccga ggcgccgcgc 100  
 ccagctcgcc cgaggtccgt cggaggcgcc cggccgcccc ggagccaagc 150  
 agcaactgag cggggaagcg cccgcgtccg gggatcgga tgtccctcct 200  
 ccttctctc ttgctagttt cctactatgt tggaaccttg gggactcaca 250  
 ctgagatcaa gagagtggca gaggaaaagg tcactttgcc ctgccaccat 300  
 caactggggc ttccagaaaa agacactctg gatattgaat ggctgctcac 350  
 cgataatgaa gggaaccaa aagtggatgat cacttactcc agtcgtcatg 400  
 tctacaataa cttgactgag gaacagaagg gccgagtggc ctttgcttcc 450  
 aatttctctg caggagatgc ctccttgag attgaacctc tgaagcccag 500  
 tgatgagggc cggtacacct gtaaggtaa gaattcagg cgctacgtgt 550  
 ggagccatgt catcttaaaa gtcttagtga gaccatcaa gcccaagtgt 600

gagttggaag gagagctgac agaaggaagt gacctgactt tgcagtgtga 650  
 gtcacacctct ggacacagagc ccatttgtgta ttactggcag cgaatccgag 700  
 agaaagaggg agaggatgaa cgtctgcctc ccaaacttag gattgactac 750  
 aaccaccctg gacgagttct gctgcagaat cttaccatgt cctactctgg 800  
 actgtaccag tgcacagcag gcaacgaagc tgggaaggaa agctgtgtgg 850  
 tgcgagtaac tgtacagtat gtacaaagca tcggcatggt tgcaggagca 900  
 gtgacaggca tagtggctgg agccctgctg attttcctct tgggtgtggct 950  
 gctaattccga aggaaagaca aagaaagata tgaggaagaa gagagaccta 1000  
 atgaaattcg agaagatgct gaagctccaa aagcccgtct tgtgaaaccc 1050  
 agctcctctt cctcaggctc tcggagctca cgctctggtt cttcctccac 1100  
 tcgctccaca gcaaatagtg cctcacgcag ccagcggaca ctgtcaactg 1150  
 acgcagcacc ccagccaggg ctggccaccc aggcatacag cctagtgggg 1200  
 ccagaggtga gaggttctga accaaagaaa gtccaccatg ctaatctgac 1250  
 caaagcagaa accacacca gcatgatccc cagccagagc agagccttcc 1300  
 aaacggtctg aattacaatg gacttgactc ccacgcttcc ctaggagtca 1350  
 ggggtctttgg actcttctcg tcattggagc tcaagtcacc agccacacaa 1400  
 ccagatgaga ggtcatctaa gtagcagtga gcattgcacg gaacagattc 1450  
 agatgagcat tttccttata caataccaaa caagcaaaag gatgtaagct 1500  
 gattcatctg taaaaaggca tcttattgtg ccttttagacc agagtaaggg 1550  
 aaagcaggag tccaaatcta tttgttgacc aggacctgtg gtgagaaggt 1600  
 tggggaaagg tgaggtgaat atacctaaaa cttttaatgt gggatatttt 1650  
 gtatcagtgc tttgattcac aattttcaag aggaaatggg atgctgtttg 1700  
 taaattttct atgcatttct gcaaacttat tggattatta gttattcaga 1750  
 cagtcaagca gaaccacag ccttattaca cctgtctaca ccatgtactg 1800  
 agctaaccac ttctaagaaa ctccaaaaaa ggaaacatgt gtcttctatt 1850  
 ctgacttaac ttcatttgtc ataaggtttg gatattaatt tcaaggggag 1900  
 ttgaaatagt gggagatgga gaagagtga tgagtttctc ccactctata 1950  
 ctaatctcac tatttgatt gagcccaaaa taactatgaa aggagacaaa 2000  
 aatttgtagc aaaggattgt gaagagcttt ccactctcat gatgttatga 2050  
 ggattgttga caaacattag aaatatataa tggagcaatt gtggatttcc 2100  
 cctcaaatca gatgcctcta aggactttcc tgctagatat ttctggaagg 2150  
 agaaaataca acatgtcatt tatcaacgtc cttagaaaga attcttctag 2200

agaaaaaggg atctaggaat gctgaaagat tacccaacat accattatag 2250  
 tctcttcttt ctgagaaaat gtgaaaccag aattgcaaga ctgggtggac 2300  
 tagaaagggg gattagatca gttttctctt aatatgtcaa ggaaggtagc 2350  
 cgggcatggg gccaggcacc tgtaggaaaa tccagcaggt ggaggttgca 2400  
 gtgagccgag attatgccat tgcactccag cctgggtgac agagcgggac 2450  
 tccgtctc 2458

<210> 503  
 <211> 373  
 <212> PRT  
 <213> Homo Sapien

<400> 503  
 Met Ser Leu Leu Leu Leu Leu Leu Leu Val Ser Tyr Tyr Val Gly  
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 Thr Leu Gly Thr His Thr Glu Ile Lys Arg Val Ala Glu Glu Lys  
 20 25 30  
 Val Thr Leu Pro Cys His His Gln Leu Gly Leu Pro Glu Lys Asp  
 35 40 45  
 Thr Leu Asp Ile Glu Trp Leu Leu Thr Asp Asn Glu Gly Asn Gln  
 50 55 60  
 Lys Val Val Ile Thr Tyr Ser Ser Arg His Val Tyr Asn Asn Leu  
 65 70 75  
 Thr Glu Glu Gln Lys Gly Arg Val Ala Phe Ala Ser Asn Phe Leu  
 80 85 90  
 Ala Gly Asp Ala Ser Leu Gln Ile Glu Pro Leu Lys Pro Ser Asp  
 95 100 105  
 Glu Gly Arg Tyr Thr Cys Lys Val Lys Asn Ser Gly Arg Tyr Val  
 110 115 120  
 Trp Ser His Val Ile Leu Lys Val Leu Val Arg Pro Ser Lys Pro  
 125 130 135  
 Lys Cys Glu Leu Glu Gly Glu Leu Thr Glu Gly Ser Asp Leu Thr  
 140 145 150  
 Leu Gln Cys Glu Ser Ser Ser Gly Thr Glu Pro Ile Val Tyr Tyr  
 155 160 165  
 Trp Gln Arg Ile Arg Glu Lys Glu Gly Glu Asp Glu Arg Leu Pro  
 170 175 180  
 Pro Lys Ser Arg Ile Asp Tyr Asn His Pro Gly Arg Val Leu Leu  
 185 190 195  
 Gln Asn Leu Thr Met Ser Tyr Ser Gly Leu Tyr Gln Cys Thr Ala  
 200 205 210  
 Gly Asn Glu Ala Gly Lys Glu Ser Cys Val Val Arg Val Thr Val  
 215 220 225

Gln Tyr Val Gln Ser Ile Gly Met Val	Ala Gly Ala Val Thr Gly	230	235	240
Ile Val Ala Gly Ala Leu Leu Ile Phe	Leu Leu Val Trp Leu Leu	245	250	255
Ile Arg Arg Lys Asp Lys Glu Arg Tyr	Glu Glu Glu Glu Arg Pro	260	265	270
Asn Glu Ile Arg Glu Asp Ala Glu Ala	Pro Lys Ala Arg Leu Val	275	280	285
Lys Pro Ser Ser Ser Ser Ser Gly Ser	Arg Ser Ser Arg Ser Gly	290	295	300
Ser Ser Ser Thr Arg Ser Thr Ala Asn	Ser Ala Ser Arg Ser Gln	305	310	315
Arg Thr Leu Ser Thr Asp Ala Ala Pro	Gln Pro Gly Leu Ala Thr	320	325	330
Gln Ala Tyr Ser Leu Val Gly Pro Glu	Val Arg Gly Ser Glu Pro	335	340	345
Lys Lys Val His His Ala Asn Leu Thr	Lys Ala Glu Thr Thr Pro	350	355	360
Ser Met Ile Pro Ser Gln Ser Arg Ala	Phe Gln Thr Val	365	370	

<210> 504  
 <211> 3060  
 <212> DNA  
 <213> Homo Sapien

<400> 504  
 cgcgaggcgc ggggagcctg ggaccaggag cgagagccgc ctacctgcag 50  
 ccgccgccca cggcacggca gccaccatgg cgctcctgct gtgcttogtg 100  
 ctctgtgctg gagtagtgga ttctgccaga agtttgagta tcactactcc 150  
 tgaagagatg attgaaaaag ccaaagggga aactgcctat ctgccatgca 200  
 aatttacgct tagtcccga gaccaggagc cgctggacat cgagtggctg 250  
 atatcaccag ctgataatca gaaggtggat caagtgatta ttttatattc 300  
 tggagacaaa atttatgatg actactatcc agatctgaaa ggccgagtac 350  
 attttacgag taatgatctc aaatctggtg atgcatcaat aaatgtaacg 400  
 aatttacaac tgtcagatat tggcacatat cagtgcaaag tgaaaaaagc 450  
 tcctggtggt gcaaataaga agattcatct ggtagttctt gttaagcctt 500  
 caggtgctgag atgttacgtt gatggatctg aagaaattgg aagtgacttt 550  
 aagataaaat gtgaaccaa agaaggttca cttccattac agtatgagtg 600  
 gcaaaaattg tctgactcac agaaaatgcc cacttcatgg ttagcagaaa 650  
 tgacttcac tggtatatct gtaaaaaatg cctcttctga gtactctggg 700

acatacagct gtacagtcag aaacagagtg ggctctgac agtgcctggt 750  
 gcgtctaaac gttgtccctc cttcaaataa agctggacta attgcaggag 800  
 ccattatagg aacttttgctt gctctagcgc tcattgggtct tatcatcttt 850  
 tgctgtcgta aaaagcgcag agaagaaaaa tatgaaaagg aagttcatca 900  
 cgatatcagg gaagatgtgc cacctccaaa gagccgtacg tccactgcca 950  
 gaagctacat cggcagtaat cattcatccc tgggggtccat gtctccttcc 1000  
 aacatggaag gatattccaa gactcagtat aaccaagtac caagtgaaga 1050  
 ctttgaacgc actcctcaga gtccgactct cccacctgct aagttcaagt 1100  
 acccttaciaa gactgatgga attacagttg tataaatatg gactactgaa 1150  
 gaatctgaag tattgtatta tttgacttta ttttaggcct ctagtaaaga 1200  
 cttaaagtgt ttttaaaaaa agcacaaggc acagagatta gagcagctgt 1250  
 aagaacacat ctactttatg caatggcatt agacatgtaa gtcagatgtc 1300  
 atgtcaaaat tagtacgagc caaattcttt gttaaaaaac cctatgtata 1350  
 gtgacactga tagttaaag atgttttatt atattttcaa taactaccac 1400  
 taacaaatth ttaacttttc atatgcata tctgatattg ggtcttttag 1450  
 gaaaagtatg gttaatagtt gattttttcaa aggaaatttt aaaattctta 1500  
 cgttctgttt aatgtttttg ctatttagtt aaatacattg aagggaata 1550  
 cccgttcttt tcccctttta tgcacacaac agaaacacgc gttgtcatgc 1600  
 ctcaaactat tttttatttg caactacatg atttcacaca attctcttaa 1650  
 acaacgacat aaaatagatt tccttgtata taaataactt acatacgctc 1700  
 cataaagtaa attctcaaag gtgctagaac aaatcgtcca cttctacagt 1750  
 gttctcgtat ccaacagagt tgatgcacaa tatataaata ctcaagtcca 1800  
 atattaaaaa cttaggcact tgactaactt taataaaatt tctcaacta 1850  
 tatcaatatt taaagtgcatt atatttttta agaaagatta ttctcaataa 1900  
 cttctataaa aataagtttg atggtttggc ccatctaact tcactactat 1950  
 tagtaagaac ttttaacttt taatgtgtag taaggtttat tctacctttt 2000  
 tctcaacatg acaccaacac aatcaaaaac gaagtttagtg aggtgctaac 2050  
 atgtgaggat taatccagt attccggtca caatgcattc caggaggagg 2100  
 taccatgct actggaattg ggcgatatgg tttatttttt cttccctgat 2150  
 ttggataacc aaatggaaca ggaggaggat agtgattctg atggccattc 2200  
 cctcgatata ttcttggtt ttttctgggc aaaggggtgc acattggaag 2250  
 aggtggaaat ataagttctg aaatctgtag ggaagagaac acattaagtt 2300



125	130	135
Val Val Leu Val Lys Pro Ser Gly Ala	Arg Cys Tyr Val Asp Gly	
140	145	150
Ser Glu Glu Ile Gly Ser Asp Phe Lys	Ile Lys Cys Glu Pro Lys	
155	160	165
Glu Gly Ser Leu Pro Leu Gln Tyr Glu	Trp Gln Lys Leu Ser Asp	
170	175	180
Ser Gln Lys Met Pro Thr Ser Trp Leu	Ala Glu Met Thr Ser Ser	
185	190	195
Val Ile Ser Val Lys Asn Ala Ser Ser	Glu Tyr Ser Gly Thr Tyr	
200	205	210
Ser Cys Thr Val Arg Asn Arg Val Gly	Ser Asp Gln Cys Leu Leu	
215	220	225
Arg Leu Asn Val Val Pro Pro Ser Asn	Lys Ala Gly Leu Ile Ala	
230	235	240
Gly Ala Ile Ile Gly Thr Leu Leu Ala	Leu Ala Leu Ile Gly Leu	
245	250	255
Ile Ile Phe Cys Cys Arg Lys Lys Arg	Arg Glu Glu Lys Tyr Glu	
260	265	270
Lys Glu Val His His Asp Ile Arg Glu	Asp Val Pro Pro Pro Lys	
275	280	285
Ser Arg Thr Ser Thr Ala Arg Ser Tyr	Ile Gly Ser Asn His Ser	
290	295	300
Ser Leu Gly Ser Met Ser Pro Ser Asn	Met Glu Gly Tyr Ser Lys	
305	310	315
Thr Gln Tyr Asn Gln Val Pro Ser Glu	Asp Phe Glu Arg Thr Pro	
320	325	330
Gln Ser Pro Thr Leu Pro Pro Ala Lys	Phe Lys Tyr Pro Tyr Lys	
335	340	345
Thr Asp Gly Ile Thr Val Val		
350		

<210> 506  
 <211> 1705  
 <212> DNA  
 <213> Homo Sapien

<400> 506  
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 tctgattggt gaatggtgaa ggtgcctgtc taacttttct gtaaaaagaa 100  
 ccagctgcct ccaggcagcc agccctcaag catcacttac aggaccagag 150  
 ggacaagaca tgactgtgat gaggagctgc tttcgccaat ttaacaccaa 200  
 gaagaattga ggctgcttgg gaggaaggcc aggaggaaca cgagactgag 250

agatgaatTT tcaacagagg ctgcaaagcc tgtggactTT agccagaccc 300  
 ttctgccctc ctttgctggc gacagcctct caaatgcaga tggttgtgct 350  
 cccttgccctg ggTTTTTacc tgcttctctg gagccaggta tcagggggccc 400  
 agggccaaga attccactTT gggccctgcc aagtgaaggg ggttgttccc 450  
 cagaaactgt gggagcctt ctgggctgtg aaagacacta tgcaagctca 500  
 ggataacatc acgagtgtcc ggctgctgca gcaggagggt ctgcagaacg 550  
 tctcggtatg tgagagctgt taccttgtcc acaccctgct ggagttctac 600  
 ttgaaaactg ttttcaaaaa ccaccacaat agaacagttg aagtcaggac 650  
 tctgaagtca ttctctactc tggccaacaa ctttgttctc atcgtgtcac 700  
 aactgcaacc cagtcaagaa aatgagatgt tttccatcag agacagtgca 750  
 cacaggcggg ttctgctatt ccggagagca ttcaaacagt tggacgtaga 800  
 agcagctctg accaaagccc ttggggaagt ggacattctt ctgacctgga 850  
 tgcagaaatt ctacaagctc tgaatgtcta gaccaggacc tccctcccc 900  
 tggcactggg ttgttccctg tgtcatttca aacagtctcc cttcctatgc 950  
 tgttactggg acacttcacg cccttggcca tgggtcccat tcttggcca 1000  
 ggattattgt caaagaagtc attctttaag cagcgccagt gacagtcagg 1050  
 gaaggtgcct ctggatgctg tgaagagtct acagagaaga ttcttgtatt 1100  
 tattacaact ctatttaatt aatgtcagta tttcaactga agttctatTT 1150  
 atttgtgaga ctgtaagtta catgaaggca gcagaatatt gtgccccatg 1200  
 cttctttacc cctcacaatc cttgccacag tgtggggcag tggatgggtg 1250  
 cttagtaagt acttaataaa ctgtgggtgct ttttttggcc tgtctttgga 1300  
 ttgttaaaaa acagagaggg atgcttggat gtaaaactga acttcagagc 1350  
 atgaaaatca cactgtcttc tgatatctgc agggacagag cattgggggtg 1400  
 ggggtaaggt gcatctgttt gaaaagtaaa cgataaaatg tggattaaag 1450  
 tgcccagcac aaagcagatc ctcaataaac atttcatttc ccaccacac 1500  
 tgcagctc accccatcat ccctttccct tggtgccctc cttttttttt 1550  
 tatcctagtc attcttccct aatcttccac ttgagtgtca agctgacctt 1600  
 gctgatgggtg acattgcacc tggatgtact atccaatctg tgatgacatt 1650  
 ccctgctaatt aaaagacaac ataactcaa aaaaaaaaaa aaaaaaaaaa 1700  
 aaaaa 1705

<210> 507  
 <211> 206  
 <212> PRT



<213> Homo Sapien

<400> 507

Met Asn Phe Gln Gln Arg Leu Gln Ser Leu Trp Thr Leu Ala Arg  
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Pro Phe Cys Pro Pro Leu Leu Ala Thr Ala Ser Gln Met Gln Met  
20 25 30  
Val Val Leu Pro Cys Leu Gly Phe Thr Leu Leu Leu Trp Ser Gln  
35 40 45  
Val Ser Gly Ala Gln Gly Gln Glu Phe His Phe Gly Pro Cys Gln  
50 55 60  
Val Lys Gly Val Val Pro Gln Lys Leu Trp Glu Ala Phe Trp Ala  
65 70 75  
Val Lys Asp Thr Met Gln Ala Gln Asp Asn Ile Thr Ser Ala Arg  
80 85 90  
Leu Leu Gln Gln Glu Val Leu Gln Asn Val Ser Asp Ala Glu Ser  
95 100 105  
Cys Tyr Leu Val His Thr Leu Leu Glu Phe Tyr Leu Lys Thr Val  
110 115 120  
Phe Lys Asn His His Asn Arg Thr Val Glu Val Arg Thr Leu Lys  
125 130 135  
Ser Phe Ser Thr Leu Ala Asn Asn Phe Val Leu Ile Val Ser Gln  
140 145 150  
Leu Gln Pro Ser Gln Glu Asn Glu Met Phe Ser Ile Arg Asp Ser  
155 160 165  
Ala His Arg Arg Phe Leu Leu Phe Arg Arg Ala Phe Lys Gln Leu  
170 175 180  
Asp Val Glu Ala Ala Leu Thr Lys Ala Leu Gly Glu Val Asp Ile  
185 190 195  
Leu Leu Thr Trp Met Gln Lys Phe Tyr Lys Leu  
200 205

<210> 508

<211> 924

<212> DNA

<213> Homo Sapien

<400> 508

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cggctctcagg agatgtctga tttccacaga catgcaccat atagaagaga 150  
gtttccaaga aatcaaaaaga gccatccaag ctaaggacac cttcccaa 200  
gtcactatcc tgtccacatt ggagactctg cagatcatta agcccttaga 250  
tgtgtgctgc gtgaccaaga acctcctggc gttctacgtg gacagggtgt 300

tcaaggatca tcaggagcca aacccccaaaa tcttgagaaa aatcagcagc 350  
 attgccaaact ctttctctta catgcagaaa actctgcggc aatgtcagga 400  
 acagaggcag tgtcaactgca ggcaggaagc caccaatgcc accagagtca 450  
 tccatgacaa ctatgatcag ctggagggtcc acgctgctgc cattaatatcc 500  
 ctggggagagc tcgacgtctt tctagcctgg attaataaga atcatgaagt 550  
 aatgtttctca gcttgatgac aaggaacctg tatagtgatc cagggatgaa 600  
 caccctctgt gcggtttact gtgggagaca gccaccttg aaggggaagg 650  
 agatggggaa ggcccttgac agctgaaagt cccactggct ggcctcaggc 700  
 tgtcttattc cgcttgaaaa taggcaaaaa gtctactgtg gtatttgtaa 750  
 taaactctat ctgctgaaag ggcctgcagg ccatcctggg agtaaagggc 800  
 tgccttccca tctaatttat tgtaaagtca tatagtccat gtctgtgatg 850  
 tgagccaagt gatatcctgt agtacacatt gtactgagtg gtttttctga 900  
 ataaattcca tattttacct atga 924

<210> 509  
 <211> 177  
 <212> PRT  
 <213> Homo Sapien

<400> 509  
 Met Lys Leu Gln Cys Val Ser Leu Trp Leu Leu Gly Thr Ile Leu 15  
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 Ile Leu Cys Ser Val Asp Asn His Gly Leu Arg Arg Cys Leu Ile 30  
 20 25 30  
 Ser Thr Asp Met His His Ile Glu Glu Ser Phe Gln Glu Ile Lys 45  
 35 40 45  
 Arg Ala Ile Gln Ala Lys Asp Thr Phe Pro Asn Val Thr Ile Leu 60  
 50 55 60  
 Ser Thr Leu Glu Thr Leu Gln Ile Ile Lys Pro Leu Asp Val Cys 75  
 65 70 75  
 Cys Val Thr Lys Asn Leu Leu Ala Phe Tyr Val Asp Arg Val Phe 90  
 80 85 90  
 Lys Asp His Gln Glu Pro Asn Pro Lys Ile Leu Arg Lys Ile Ser 105  
 95 100 105  
 Ser Ile Ala Asn Ser Phe Leu Tyr Met Gln Lys Thr Leu Arg Gln 120  
 110 115 120  
 Cys Gln Glu Gln Arg Gln Cys His Cys Arg Gln Glu Ala Thr Asn 135  
 125 130 135  
 Ala Thr Arg Val Ile His Asp Asn Tyr Asp Gln Leu Glu Val His 150  
 140 145 150  
 Ala Ala Ala Ile Lys Ser Leu Gly Glu Leu Asp Val Phe Leu Ala

155

160

165

Trp Ile Asn Lys Asn His Glu Val Met Phe Ser Ala  
170 175

<210> 510

<211> 996

<212> DNA

<213> Homo Sapien

<400> 510

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cacatacgat ttaggtgaca ctatagaata acatccactt tgcctttctc 150  
tccacaggtg tccactccca ggtccaactg cacctcgggt ctatcgataa 200  
tctcagcacc agccactcag agcagggcac gatgttgggg gcccgccctca 250  
ggctctgggt ctgtgccttg tgcagcgtct gcagcatgag cgtcctcaga 300  
gcctatccca atgcctcccc actgctcggc tccagctggg gtggcctgat 350  
ccacctgtac acagccacag ccaggaacag ctaccacctg cagatccaca 400  
agaatggcca tgtggatggc gcaccccatc agaccatcta cagtgccttg 450  
atgatcagat cagaggatgc tggctttgtg gtgattacag gtgtgatgag 500  
cagaagatac ctctgcatgg atttcagagg caacatTTTT ggatcacact 550  
atttcgacct ggagaactgc aggttccaac accagacgct ggaaaacggg 600  
tacgacgtct accactctcc tcagtatcac ttcttggtca gtctgggccc 650  
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tcctgtcccc gaggaacgag atccccctaa ttcaattcaa ccccccata 750  
ccacggcggc acacccggag cgccgaggac gactcggagc gggacccccct 800  
gaacgtgctg aagccccggg cccggatgac cccggccccg gcctcctggt 850  
cacaggagct cccgagcgcc gaggacaaca gcccgatggc cagtgaacca 900  
ttaggggtgg tcagggggcg tcgagtgaac acgcacgctg ggggaacggg 950  
cccgaaggc tgccgcccct tcgccaagtt catctagggt cgctgg 996

<210> 511

<211> 251

<212> PRT

<213> Homo Sapien

<400> 511

Met Leu Gly Ala Arg Leu Arg Leu Trp Val Cys Ala Leu Cys Ser  
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Val Cys Ser Met Ser Val Leu Arg Ala Tyr Pro Asn Ala Ser Pro  
20 25 30



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 acatctccca acttcatggt gctgatcgcc acctccgtgg agacatcagc 400  
 cgccagtggc agccccgagg gagctggaat gaccacagtt cagaccatca 450  
 caggcagtga tcccaggagaa gccatctttg acaccctttg caccgatgac 500  
 agctctgaag aggcaaagac actcacaatg gacatattga cattgggtca 550  
 cacctccaca gaagctaagg gcctgtcctc agagagcagt gcctcttccg 600  
 acggccccca tccagtcac accccgtcac gggcctcaga gagcagcgcc 650  
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 cagcgctct tccgacggcc cccatccagt catcaccccg tcatgggtccc 750  
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 catccctggg gcctcagaca tagatctcat cccacaggaa ggggtgaagg 900  
 cctcgtccac ctccgatcca ccagctctgc ctgactccac tgaagcaaaa 950  
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 <212> PRT  
 <213> Homo Sapien

<400> 513

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Arg	Ala	Asp	Thr	Ala	Met	Thr	Thr	Asp	Asp	Thr	Glu	Val	Pro	Ala	35	40	45	
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Pro	Glu	Ala	Glu	Thr	Arg	Gly	Ala	Lys	Arg	Ile	Ser	Pro	Ala	Arg	80	85	90	
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Glu	Glu	Ala	Ile	Phe	Asp	Thr	Leu	Cys	Thr	Asp	Asp	Ser	Ser	Glu	140	145	150	
Glu	Ala	Lys	Thr	Leu	Thr	Met	Asp	Ile	Leu	Thr	Leu	Ala	His	Thr	155	160	165	
Ser	Thr	Glu	Ala	Lys	Gly	Leu	Ser	Ser	Glu	Ser	Ser	Ala	Ser	Ser	170	175	180	
Asp	Gly	Pro	His	Pro	Val	Ile	Thr	Pro	Ser	Arg	Ala	Ser	Glu	Ser	185	190	195	
Ser	Ala	Ser	Ser	Asp	Gly	Pro	His	Pro	Val	Ile	Thr	Pro	Ser	Arg	200	205	210	
Ala	Ser	Glu	Ser	Ser	Ala	Ser	Ser	Asp	Gly	Pro	His	Pro	Val	Ile	215	220	225	
Thr	Pro	Ser	Trp	Ser	Pro	Gly	Ser	Asp	Val	Thr	Leu	Leu	Ala	Glu	230	235	240	
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Thr	Glu	Ile	Glu	Thr	Thr	Thr	Ser	Ser	Ile	Pro	Gly	Ala	Ser	Asp	260	265	270
Ile	Asp	Leu	Ile	Pro	Thr	Glu	Gly	Val	Lys	Ala	Ser	Ser	Thr	Ser	275	280	285
Asp	Pro	Pro	Ala	Leu	Pro	Asp	Ser	Thr	Glu	Ala	Lys	Pro	His	Ile	290	295	300
Thr	Glu	Val	Thr	Ala	Ser	Ala	Glu	Thr	Leu	Ser	Thr	Ala	Gly	Thr	305	310	315
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Thr	Asn	Ser	Ala	Thr	Glu	Arg	Glu	Val	Thr	Ala	Pro	Gly	Ala	Thr	335	340	345
Thr	Leu	Ser	Gly	Ala	Leu	Val	Thr	Val	Ser	Arg	Asn	Pro	Leu	Glu	350	355	360
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Ser	Gly	Ala	Ala	Pro	Val	Ser	Ile	Glu	Ala	Gly	Ser	Ala	Val	Gly	380	385	390
Lys	Thr	Thr	Ser	Phe	Ala	Gly	Ser	Ser	Ala	Ser	Ser	Tyr	Ser	Pro	395	400	405
Ser	Glu	Ala	Ala	Leu	Lys	Asn	Phe	Thr	Pro	Ser	Glu	Thr	Pro	Thr	410	415	420
Met	Asp	Ile	Ala	Thr	Lys	Gly	Pro	Phe	Pro	Thr	Ser	Arg	Asp	Pro	425	430	435
Leu	Pro	Ser	Val	Pro	Pro	Thr	Thr	Thr	Asn	Ser	Ser	Arg	Gly	Thr	440	445	450
Asn	Ser	Thr	Leu	Ala	Lys	Ile	Thr	Thr	Ser	Ala	Lys	Thr	Thr	Met	455	460	465
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 <212> DNA  
 <213> Homo Sapien

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<213> Artificial Sequence

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